The Pan-Pacific Entomologist

Vol. XI, No. 1 January, 1935

NEW SPECIES OF NORTH AMERICAN WEEVILS IN THE FAMILY CURCULIONIDÆ, SUBFAMILY BRACHYRHININÆ, II.

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TRIBE TRIPIPHORINI (continued)

Genus Cimbocera Horn

KEY TO SPECIES

1. Pile very short, transverse impression at base of rostrum feeble, head flattened above from vertex to near apex, seventh funicular segment almost a part of club, suture of metasternal side pieces distinct. W. Col.....*cinerea* n. sp.
—. Pile long, transverse impression at base of rostrum pronounced, front and upper surface of rostrum both convex, seventh funicular segment close to but distinct from club.....2.
2. Rostrum rather narrow, about twice as long as broad, a few light colored scales on disk, suture of metasternal side pieces distinct. Wyoming (Dak. Terr.).....*pauper* Horn
—. Rostrum broad, much less than twice as long as broad, light and dark colored scales generally about equally numerous above, suture of metasternal side pieces not evident below elytra.....3.
3. Elytra at least two-fifths longer than broad, pile of elytra of a single type, long, and scattered white and black scales of elytra arranged in irregular patches. Col., N. Mex., Ut., Nev., Ariz.....*conspersa* Fall
—. Elytra only one-fourth longer than broad in female, pile of a double type, a few widely scattered longer and darker hairs with a denser clothure of rather short white pile, white scales of disk of elytra in female arranged in a lineate manner, a more or less complete sutural vitta and a short vitta extending back from each humerus (poorly defined in male). E. San Diego Co., Calif.....*robusta*, n. sp.

Cimbocera cinerea Van Dyke, new species

Oblong, robust, black, antennæ and tarsi a bit rufous, densely clothed with somewhat large, pearly white or brown, imbricated scales, and with rather short setæ concentrated in irregular rows on the elytra and scattered over the rest of the body. Head two-

fifths longer than prothorax; front flattened, rather sparsely punctured, transverse impression at base of rostrum feeble; rostrum broad, about a fourth broader than long, flattened above and almost continuous on same plane with front, depressed at apex, the nasal plate well developed, with a fine median longitudinal groove generally concealed beneath the scales; eyes almost circular, quite convex; the scrobes deep, arched and continuous almost to lower angle of eyes, outer funicular segments transverse, the seventh longer, companulate, close to club and similarly clothed with golden pile. Prothorax a fourth broader than long, base and apex transverse, sides well rounded, feebly constricted before apex, post-ocular lobes feeble, the disk convex with sparse erect setæ. Elytra three times length of prothorax and about one-fourth longer than broad, oval; striæ shallowly impressed and rather finely, closely punctured, both to a great extent concealed by the scales and with the setæ much inclined. Beneath with suture on metapleuræ well defined below elytra and suture between first and second abdominal sclerites strongly arcuate at middle. Length 7.5 mm., breadth 3.5 mm.

Holotype (No. 3917, Mus. C. A. S. Ent.) and one paratype in Van Dyke collection, collected by myself at Grand Junction, Col., June 12, 1926.

This species is readily separated from its fellows by being broader and flatter, with imbricated scales, as well as by the characters given in the Key.

Cimbocera robusta Van Dyke, new species

Robust, black, densely clothed with scales arranged in a tessellated manner, those of the head, sides of body, undersurface and legs silvery white, those of the pronotum mixed white and black, the latter more or less concentrated in a broad transverse median bar, while those of the disk of elytra are black except for a complete vitta of white scales on the sutural intervals and an incomplete vitta on the fourth intervals reaching back from the base; in addition the legs and upper surface are furnished with sparse, large, dark and suberect hair and the elytra also with a denser, shorter, white, suberect pile. Head at least one-fourth longer than prothorax, front convex, transverse impression at base of rostrum pronounced; rostrum almost as broad as long, arcuate and depressed at apex, the nasal plate lunate and not depressed; eyes rather large, much flattened; scrobes deep, arcuate, wider behind and ending well in front of eyes; funicular segments 3-7 very transverse and close together, the seventh close to, but distinct from club, yet similarly clothed with golden pile. Prothorax a fifth broader than long, base and apex transverse; sides very arcuate, constricted before apex, post ocular lobes well defined, disk quite convex. Elytra broadly elliptical, two and a half times length of prothorax and slightly more

than one-fifth longer than broad; disk moderately convex, declivity abrupt, striæ narrowly and distinctly impressed and moderately coarsely, closely punctured, the intervals flat. Beneath with the metasternal side pieces without dividing suture observable below elytra and the suture between first and second ventral segments strongly arcuate at middle. Length 6 mm., breadth 3 mm.

Holotype female, allotype male (Nos. 3918, 3933, Mus. C.A.S. Ent.) and five female paratypes. The first is a specimen from the F. E. Blaisdell collection, collected by C. C. Searl in Mason Valley, San Diego Co., California, April 1, 1928. The allotype male and two of the paratypes were taken at the same time and place. Three other paratypes were collected in the San Fillipe Valley, San Diego Co., Calif., Mch. 27, 1934, by A. Watson. The male and one of the paratypes were submitted to me by the San Diego Natural History Society, and the remainder by F. R. Platt. The male is much narrower than the female, not globose, of a dark reddish brown color with rufous legs (probably immature) and with the white scales of prothorax and elytra not conspicuous. The paratypes are all similar to the type as regards character, but variable as to size, one of them being 8 mm. long by 4 mm. broad.

The distinguishing characters of this species are its robustness, broad rostrum, double type of pile, color pattern, and absence of metasternal suture. Mason Valley is on the eastern side of the San Bernardino range of mountains in southern California, therefore a part of the so-called Colorado Desert and on the extreme western margin of the Great Basin.

Cimbocera conspersa Fall is, as I have mentioned previously, a very distinct species and not a variety of *pauper* Horn as stated by Pierce. The very broad rostrum, more transverse prothorax, more prominent humeri, color pattern and absence of metapleural suture below elytra, very distinct in *pauper*, readily distinguishes it. The nasal plate and suture between the first and second abdominal sclerites are variable characters and of no systematic value here. I have examined carefully somewhat over fifty specimens from Colorado, New Mexico, Utah, Arizona and Nevada and, though I can notice slight differences in form here and there, as well as variations of the nasal plate, abdominal suture, and other minor characters, find that as regards all essentials they are absolutely the same. *Cimbocera sericea* Pierce is such a weak phase of *conspersa* that I would suppress it altogether. The varia-

tions of the metasternal side pieces with regard to the suture seems to indicate, as has been shown in *Panscopus* by Buchanan, that it is not always of generic value.

Miloderes argenteus Van Dyke, new species

Moderately robust, black, densely clothed with silvery white or brown, imbricated scales, the white dominating beneath and the brown above, and also densely pilose above, the hair long, fine, fulvous, and semierect. Head about one-fourth longer than prothorax, front slightly convex, granulose, transverse impression at base of rostrum feeble; rostrum broad, about a fourth narrower than long, flattened above, with a median longitudinal groove extending back to middle of front, and depressed at apex, the nasal plate triangular and depressed; eyes rather large and somewhat convex; scrobes deep, broad, arched behind and evanescent well before the eyes; outer funicular segments obconical, a bit longer than broad, the seventh larger, conical, close to club and similarly clothed. Prothorax about an eighth broader than long, base truncate and apex feebly arcuate, sides rounded, broadest in front of middle, post ocular lobes feeble, disk convex, constricted forwards, elytra broadly elliptical, declivity abrupt, somewhat more than two and a half times length of prothorax and over a third longer than broad, the striæ feebly impressed and rather finely, closely punctured though to a great extent concealed by squamæ, and intervals flat. Beneath with suture of metasternal side pieces distinct below elytra, with first ventral segment triangularly impressed posteriorly at middle and suture between it and second ventral arcuate. Length 6.5 mm., breadth 2.75 mm.

Holotype (No. 3919, Mus. C. A. S. Ent.) and four paratypes, one somewhat larger, collected by myself at Grand Junction, Col., June 12, 1926.

This species differs from *setosus* Csy. in the proportions of the body, color of scales, in the closely placed strial punctures and practical absence of punctures on the intervals.

Miloderes apparently differs fundamentally from *Cimbocera* only in having the third tarsal segments suddenly and broadly dilated. The two genera, however, differ considerably from other genera in the tribe in having the seventh funicular segment almost a part of the club and in having the tarsi setose below, not densely pilose below on the third segments. The species of each also show a tendency to diverge to a greater degree as regards certain characters considered fundamental elsewhere, than is the case with the species of most of the other genera with which they are asso-

ciated. Perhaps it is the stress of the desert environment which is accountable for this.

Genus Melanolemma Van Dyke, new genus

Body elongate, elytra densely squamose and non-pilose except minutely on apical declivity, the rest of the body more sparsely squamose and sparsely setose. Rostrum as long as head, base narrower than interocular area, the apex with alæ broader, transverse basal impression shallow, a feeble, short and triangular lateral groove in front of eyes, tip feebly emarginate, the nasal plate distinct, the supports of deciduous pieces of mandibles not prominent, the eyes large, broadly elliptical and slightly convex; scrobes deep, well defined, rather long and directed beneath and towards lower angle of eyes, the antennæ moderately long, setose, not squamose, the scape clavate, reaching middle of eye, funicle 7-segmented, 1-2 about three times as long as broad, the first longer and more robust, 3-7 shorter, gradually broader, the seventh well separated from club, club oval and pointed at apex. Prothorax transverse, truncate at base and apex, sides well rounded, disk coarsely rugose and granular. Scutellum small and transverse. Elytra with basal margin transverse, not carinated, humeral angles small and obtuse, elliptical, strio-punctate. Metasternum short, side pieces with suture obliterated; intercoxal process arcuate in front; second abdominal sclerite as long as the two following united and separated from the first by a suture distinctly arcuated at middle. Femora moderately pedunculated, anterior and middle tibiæ mucronate at tip, the former feebly denticulate within, the hind tibiæ with corbels open and non-truncate at apex; the tarsi with third segment broad and bilobed and densely pubescent beneath.

Genotype: *Melanolemma montana*, new species.

This genus belongs before *Peritaxia* from which it may be separated by the absence of the dense elytral pile and coarse strial punctures. It also has the scrobes slightly more open behind than in *Peritaxia*, lacks the latter's distinct supports to the deciduous mandibular pieces, the deep transverse rostral impression, the pronounced angled humeri and generally carinated basal margin to the elytra. From *Dyslobus*, certain of the black species of which it often quite closely mimics, it differs by the much longer and better defined scrobes, less pronounced postocular lobes and absence of suture between metasternal side pieces.

Melanolemma montana Van Dyke, new species

Elongate, black, elytra densely squamose but not pilose, the rest of the body less markedly squamose and rather sparsely provided

with short setæ. Head about an eighth longer than prothorax, front flattened and rather finely, deeply punctured, a feeble transverse impression at base of rostrum, a pronounced fovea between the eyes, the rostrum almost straight, flattened above, depressed at apex and coarsely irregularly punctured. Prothorax about a fifth broader than long, apex but little narrower than base, the sides evenly arcuate, the disk convex, and coarsely rugose-granulate, with a few scattered scales, and sometimes a narrow median longitudinal impression. Elytra less than three times as long as prothorax, about three-tenths longer than broad, base transverse, humeral angles small and obtuse, general contour somewhat elliptical though sides almost parallel at middle; disk convex, declivity rounded though abrupt, striæ finely impressed and moderately, somewhat closely punctured, intervals flat, densely tessellated with small, black scales, the apical declivity set with a few minute setæ. Undersurface of prothorax coarsely rugose, afterbody more or less granular as result of squamose vestiture, and sparsely pilose, the hair short and oblique, apex of last ventral somewhat impressed, apparently so in both sexes. Length 9 mm., breadth 3.25 mm.

Holotype (No. 3920, Mus. C. A. S. Ent.) and numerous designated paratypes from a set of twenty-one specimens, collected by myself from beneath rocks near Long Peak Inn., Colo., alt. 9000 ft., June 30 and July 1, 1926. Several of the specimens were found dead and some of these showed elytral perforations suggestive of emergency holes of parasites.

This insect is as stated before, suggestive of certain of the black species of *Dyslobus* but readily separable by the generic characters. From the species of *Pseudorimus* and *Crocidema*, previously discussed, it differs also by the generic characters such as the long, deep scrobes pointing toward lower angle of eyes, the scape only reaching middle of eyes, not posterior margin, the evident humeral angles as well as by the coarsely rugose prothorax.

Peritaxia brevipilis Van Dyke, new species

Rather small, narrow, elongate; piceous, antennæ, tibiæ and tarsi somewhat rufous; clothed throughout with rather large scales, imbricated, very dense on elytra, and mixed dark brown and opalescent, and setiferous, the setæ of head short and sparse, of prothorax a bit longer, denser and suberect, while those of the elytra are still longer, about as long as breadth of elytral intervals, and suberect. Head almost a fourth longer than prothorax, densely squamose, front feebly convex, transverse impression at base of rostrum marked, rostrum with base elongate, parallel, as wide as interocular space and slightly wider apically, its upper surface straight though feebly depressed at apex. Prothorax about as

broad as long, base transverse, apex feebly arcuate, sides broadly rounded, disk convex, rather coarsely, irregularly punctured giving the surface a very uneven appearance. Elytra about twice as long as prothorax and three-sevenths longer than broad, the base transverse, with upper margin subcarinate, the humeri prominent, right angled; disk convex, declivity straight, almost vertical, striæ finely impressed, the strial punctures moderate and rather closely placed, coarser at sides. Undersurface moderately squamose, the first and second ventral segments longitudinally sulcate at middle and last with transverse foveiform impression. Length 6.5 mm., breadth 2.5 mm.

Holotype male (No. 3921, Mus. C. A. S. Ent.) and paratype male, collected by J. O. Martin, at Cave Creek, Chiricahua Mts., Ariz., June 20, 1932.

This species in shape simulates some of the other narrower species of the genus like *perforata* Csy. but is much smaller. The short setiferous pile of uniform type and length on the elytra, however, readily separates it from that species as well as from all other described species, these having pile of a double type, much finer and with the longer hairs very much longer.

Dyslobus argillous Van Dyke, new species

Short, robust, piceous, antennæ and legs somewaht rufous; densely clothed with clay colored scales and moderately long, similarly colored, semierect pile, the scales at sides of prothorax and elytra lighter in color and the pile on tibiæ and tarsi of a golden hue. Head finely punctured but punctures concealed by scales, front feebly convex, rostrum twice as long as broad, separated from head by shallow transverse impression, the upper surface gradually narrowed to well developed alæ; eyes moderate in size, broadly elliptical; antennal scape reaching hind margin of eye, first and second funicular segments long, 3-7 transverse and gradually increasing in width outwardly, club cordiform, about two and a half times as long as broad. Prothorax a fifth broader than long, apex one-fourth narrower than base, sides well rounded, feebly constricted before apex, post ocular lobes well developed, disk evenly convex, densely squamose, the scales in great part concealing punctuation, the pile dense and uniformly inclined. Elytra two and a half times as long as prothorax, two-sevenths broader than prothorax and three-tenths longer than it is broad, base almost transverse, as broad as broadest part of prothorax, humeral angles rectangular but not projecting, the sides feebly sinuate just back of angles thence gradually arcuate to apex. disk convex, evenly arcuate from base to apex, striæ finely and distinctly impressed, the strial punctures fine, approximate and each with a minute golden seta, the

intervals flat, broad and of about equal width, densely squamose and with pile irregularly arranged in rows. Beneath more sparsely squamose and pilose than above, the last ventral segment obtusely carinate. Anterior tibiæ feebly denticulate within and apex considerably bent inwardly. Length 8 mm., breadth 3.5 mm.

Holotype female (No. 3922, Mus. C. A. S. Ent.) and paratype female received from Charles Liebeck. They were collected in Utah.

This species would run in my key to species of *Dyslobus*[4], previously mentioned, close to *tanneri* and *blaisdelli*. At first sight it can be separated from either by its color and breadth, especially the breadth of the base of elytra. From *tanneri*, it differs in addition by the non-verrucose pronotum and the dense pilosity; and from *blaisdelli*, by its broader head and rostrum, more evenly arcuate elytra, the declivity in *blaisdelli* being quite precipitous, and the slightly shorter, more rigid and regular type of pilosity.

Adaleres flandersi Van Dyke, new species

Of moderate size, elongate, black, densely clothed with small brown or even silvery scales, arranged in a tessellated manner, and with short curved and scattered setæ. Head over a fifth longer than prothorax, front flattened; eyes large, feebly convex; shallow transverse impression at base of rostrum, the rostrum almost twice as long as head proper, feebly, longitudinally carinate at middle and with two vague lateral sulci, base with sides parallel, alæ gradually dilated; scrobes deep, straight and almost reaching lower margin of eye, the scape long, somewhat abruptly clavate and reaching posterior margin of eye, first funicular segment a fourth longer than second and about three times as long as broad, segments 3-6 gradually shorter though not transverse, the seventh longer and broader, twice as long as broad, and free from club, the latter fusiform and about two and a half times as long as broad. Prothorax a fifth broader than long, base transverse, apex feebly lobed, post ocular lobes prominent, sides obliquely divergent forwards to beyond middle thence arcuate and feebly constricted just before apex, the disk rugose. Elytra about three times as long as prothorax, two-sevenths wider, and less than twice as long as wide, somewhat elliptical though widest back of middle and pointed apically, the disk moderately flattened above, the declivity oblique, the striæ not impressed, but the strial punctures conspicuous, moderate in size, elongate, regularly arranged in rows yet distant one from another and each lodging a minute hairlike scale, the immediate area surrounding the puncture also shallowly impressed giving the elytra a wavy appearance especially at the sides, the alternate intervals more elevated

and convex especially at sides and at declivity, the even flat, and with a limited number of short, curved, black or white setæ irregularly scattered over the surface.

Holotype (No. 3923, Mus. C. A. S. Ent.) and three paratypes in my collection, given to me some years ago by Mr. Stanley Flanders who collected them at Saticoy, Ventura Co., California.

This species is distinctly smaller than either of the other species and differs in addition by having a more transverse and markedly rugose prothorax, only occasionally rugose in *humeralis*, by having the sixth funicular segment but little longer than broad while considerably longer in the other species. *Adaleres ovipennis* has the general surface more even, the striæ as a rule well defined and the strial punctures more numerous and closer together. *Adaleres humeralis* superficially more closely resembles it because of the more elevated odd intervals of the elytra and is also to be found in the same general territory but it too has the striæ better defined, the strial punctures more numerous and closer together, the elytral setæ far more abundant, and the elytral declivity straighter and more vertical. The features that most attract attention in *flandersi* are the wavy surface of the elytra, the well spaced strial punctures, the sparse setæ and generally smaller size.

Panscopus johnsoni Van Dyke, new species

Of moderate size, piceous, antennæ and tarsi rufous, densely clothed with small scales and the head, pronotum, and alternate elytral intervals also ornamented with short, curved and clavate setæ, most evident on the elytral declivity, the scales either brown or a bright green, the latter giving the basic color and the former arranged as irregular maculations or broad oblique bands. Head flattened, the flattening continuing on to the upper surface of rostrum, a small fovea between eyes; rostrum rather long and narrow, about three times length of head, sub-cylindrical at basal two-thirds and dilated apically; eyes moderately large, narrowed below and finely granular; antennæ with scape setose, not at all squamose, gradually clavate and reaching but little beyond front margin of eye, second funicular segment longer than first, the following elongate moniliform, not robust. Prothorax just perceptibly broader than long in males and distinctly broader in females, sides moderately arcuate, slightly constricted near apex; disk deeply longitudinally sulcate at middle, the bounding carinæ more pronounced in front, the general surface uneven and irregularly studded with small tubercles which are often hard to see because of the scaly covering. Elytra cordiform, narrower in males where

they are but little broader at humeri than prothorax though considerably broader in females, the base not thickened, the disk with odd intervals elevated into pronounced carinæ, the even intervals flat and with a row of rather large, well spaced punctures on either side, each puncture closed with a very large rounded scale, much larger than the usual elytral scales and each colored in agreement with its surroundings. Beneath, the metaepisternal suture is largely obliterated, only well defined near hind coxæ; the abdominal segments are five in each sex; the pleuræ and sides of ventral plates in front are clothed with the usual type of scale but the scales over the middle portions are more or less linear, gradually getting finer and more hairlike posteriorily. Legs rather delicate. Male, length 7.5 mm., breadth 2.75 mm.; female, length 8 mm.; breadth 3.5 mm.

Holotype male, allotype female (Nos. 3924, 3934, Mus. C. A. S. Ent.) and nine paratypes collected by myself at Humptulips, Wash., May 29, 1914.

This very distinct and beautiful green species looks like a diminutive *Panscopus* (*Phymatinus*) *gemmatus* (Lec.). It should follow *maculosus* Blatch. in Buchanan's Key[5] and precede the other members from western North America. I have named it in honor of my dear old friend, the late Professor O. B. Johnson, the pioneer entomologist of the Pacific Northwest.

A New "Nomenclator Zoologicus"

The Council of the Zoological Society of London has approved a scheme for the preparation of as complete a list as possible of all the generic names that have been used in Zoology from the tenth edition of Linnæus up to and including the literature for 1935. It is anticipated that this may involve some 190,000 names, but it is hoped that it will be found possible to publish it, at a moderate price, about the end of 1937. All systematists and others throughout the world interested in such a work are invited to report any names of genera or subgenera (with a reference to the original place of publication) that appear to have been omitted from existing records or catalogues. These should be sent as soon as possible to:—Dr. S. A. Neave, Imperial Institute of Entomology, 41, Queen's Gate, London, S. W. 7, England.

[5] A Review of Panscopus by L. I. Buchanan, Proc. Ent. Soc. Wash., Vol. 29 (1927), pp. 27-30.

NEW SPECIES OF PLEOCOMA WITH NOTES CONCERNING OTHERS

(Coleoptera, Scarabæidæ)
BY E. GORTON LINSLEY
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Pleocoma bicolor Linsley, new species

Broadly oval, robust, head and prothorax piceous, elytra reddish-brown, densely clothed beneath with long, golden pubescence. Head piceous; clypeus coarsely punctured, clothed with short, stiff, suberect, yellowish-brown setæ, anterior margin deeply incised; preocular lobes narrowly rounded at apex, smooth; frontal horn only feebly narrowed to the apex, densely clothed with long, flying, golden pubescence, slightly incised at apex. Antennæ with scape moderately stout, subconical, second segment small, transverse, third three times as long as broad, sixth with a short lamellate process about one-half as long as the diameter of the segment, seventh with a longer process about twice as long as the diameter of the segment, lamellæ of segments eight to eleven well developed, one-third longer than segments two to eight taken together. Pronotum piceous, slightly more than twice as broad as long, sides broadly rounded anteriorly, sinuate posteriorly; punctures shallow, irregular, not dense. Scutellum reddish brown, glabrous, shining, impunctate. Elytra broadly rounded, widest behind the middle, uniformly reddish brown; geminate striæ only vaguely indicated; punctures shallow, sparse, irregular. Body beneath densely clothed with very long golden pubescence. Legs robust, densely pubescent; posterior tarsi slightly longer than tibiæ. Length 26-28 mm., breadth 14-16 mm.

Holotype male (No. 3925, C. A. S. Ent.) and one paratype male, taken at Radford, San Bernardino County, California, November, 1934, by Mr. Ashley C. Brown.

In color this fine species suggests *P. ulkei* Horn and *P. oregonensis* Leach, but differs from each of these in the feebly indicated geminate striæ of the elytra. It also resembles *P. badia* Fall, but may be distinguished by the four-segmented antennal club, short third segment of the antenna, and piceous head and pronotum. *P. bicolor* is much more closely related to *P. australis* Fall, but may be readily separated by the pale elytra (as in *P. badia* Fall), the long, golden pubescence (in *australis* the pubescence is shorter and reddish-brown), the shallowly and irregularly punctured pronotum (as compared with the more

regular, coarse, and moderately deep punctures in *australis*), and by the distinctly longer lamellæ composing the antennal club. These latter are at least one-third longer than segments two to eight (taken together) in *P. bicolor*, and scarcely as long as segments two to eight in *P. australis*. Other minor differences are the more robust form of *bicolor*, the shorter third segment of the antennæ (not as long as fourth and fifth together), and the presence of small lamellæ on the sixth and seventh antennal segments. This is the first recorded species of *Pleocoma* from the San Bernardino (s. str.) mountain range of southern California.

Pleocoma sonomæ Linsley, new species

Male: Broadly-oval, robust, piceous, shining, densely clothed beneath with long, yellowish pubescence. Head piceous; palpi rufo-testaceous, last segment cylindrical; clypeus coarsely punctured, sparsely clothed with short, stiff, suberect setæ, anterior margin deeply incised; frontal horn rather broad, sides subparallel to apex which is feebly emarginate; antennæ rufo-testaceous, scape moderately stout, second segment slightly transverse, third one-third longer than broad, fourth and fifth subequal, about as long as broad, sixth slightly transverse, apex acute but without an external process, seventh with a short external process about as long as the diameter of the segment, segments eight to eleven forming the club, the lamella of the eighth shorter than the others. Pronotum twice as wide as long, sides broadly rounded, disk with moderately fine, not dense, punctuation. Scutellum piceous, shining, finely, sparsely punctured. Elytra broadly oval, widest at apical one-third, sutural striæ moderately impressed, geminate striæ not deep. Body beneath densely clothed with very long yellow pubescence. Legs robust, densely pubescent; posterior tarsi subequal in length to tibiæ. Length 23 mm., breadth 15 mm.

Female: Robust, ovate, reddish-brown, clothed beneath with long, yellowish hairs. Clypeal horn short, emarginate at apex; antennæ short, funicular segments four to six bead-like, not acute at apex, segment seven acute at apex but without an external process, eight to eleven forming the rather loose club, the lamella on segment eight shorter than the others. Length 41 mm., breadth 22 mm.

Holotype male (No. 3926, C. A. S. Ent.), allotype female (No. 3927, C. A. S. Ent.) and a fine series of paratypes of both sexes taken in Sonoma County, California, in October and November, 1928, by Mr. E. R. Leach. The writer is very much indebted to Mr. Leach for the privilege of studying this species and for the loan of other material incorporated in the present paper.

P. sonomæ resembles *P. behrensi* LeConte in color, but may be distinguished by the broadly-oval (rather than oblong-oval), robust form, the broad, subparallel frontal horn, more deeply impressed sutural striæ of the elytra, and in the structure of the antennæ (see figs. 1, 1a, 2, 2a). In typical *behrensi*, the antennal club is practically five-segmented, that is, the lamella of the seventh segment is more than one-half as long as that of the eighth segment, and there is a short process on the sixth segment. In *sonomæ*, however, the antennal club is simply four-segmented, with the lamella of the eighth segment perceptibly shorter than the others, a short process on the seventh segment, and segments four to six without an external process of any kind. In antennal characters (♂ and ♀) *P. sonomæ* agrees much more closely with *P. rickseckeri* Horn, but may be readily separated by the larger size, piceous rather than black, color, and the long, yellowish pubescence of the underside of the body.

PLEOCOMA TULARENSIS Leach

Mr. A. C. Davis has recently suggested to both Mr. Leach and the writer that *P. tularensis* is the true *P. fimbriata* of LeConte. With this opinion I cannot concur. LeConte, in 1856, described *fimbriata* from a much battered individual collected in California by Dr. Heermann. The exact locality where the type was collected is not known, but LeConte had the specimen in his collection long before he published its description and Sierran material from those early days invariably came from the mining regions, frequently from Placerville. That *fimbriata* came from the northern portion of the state is confirmed by Horn[1] who states in regard to this species that it "occurs in El Dorado County," and by Dr. Fall[2] who remarks, "Three males in my collection from El Dorado Co. are undoubtedly typical representatives of *fimbriata*." Although Horn (l.c.) said of *fimbriata*, "also in Fresno County, Cal.," it is quite possible that the latter locality refers to an example of *tularensis* rather than *fimbriata*. In any event, the antenna figured by Horn for the latter species is of the type found in El Dorado specimens. The type of *P. fimbriata* is in a very poor state of preservation, but the shape of the pronotum is sufficient to show that it is not of the *tularensis* type.

[1] Horn, G. H. 1888, Trans. Am. Ent. Soc. XV, p. 6.

[2] Fall, H. H. 1911, Ent. News XXII, p. 66.

If, as seems reasonable to believe, El Dorado County examples may be taken as typical *P. fimbriata*, then *P. tularensis* is quite distinct. It differs markedly in the shape of the pronotum and structure of the antennæ (see figs. 3, 3a). In *fimbriata* the lamellæ of the antennæ are, even to the naked eye, distinctly shorter than in *tularensis*, and the funicular segments bead-like and distinct. In *tularensis* the funicular segments are cylindrical, with only the suture indicating the division between the third and fourth segments. These differences prove to be constant in a series of over one hundred examples examined. Mr. Leach has recently obtained additional examples of *tularensis* from Springville and Bass Lake (coll. by Mr. F. T. Scott).

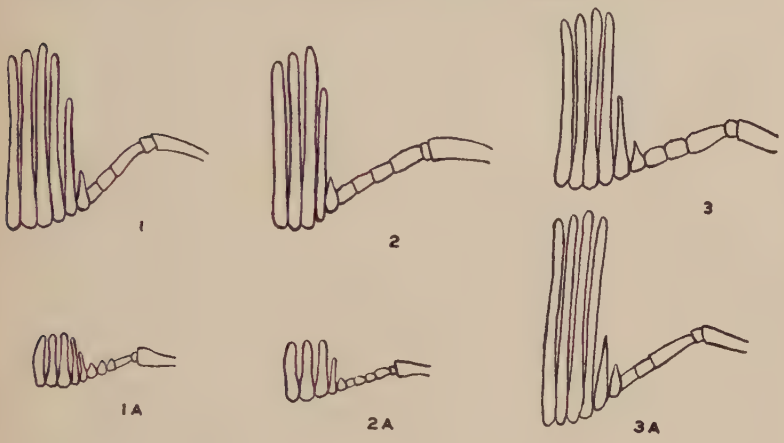
Pleocoma behrensi LeConte

In the fall of 1934, this species had three distinct flight periods in the hills back of Berkeley and Oakland, California. The first male flight occurred on October 21, when there was a rainfall of .39 inches. This flight was short, lasting only one day, and with only a few individuals (males) in evidence. The second flight lasted for two days (October 31–November 1). At this time many females opened their burrows and appeared near the surface of the ground. The third and largest flight, however, occurred on November 14 and 15. During the week following this flight, large numbers of both sexes were taken in the ground. The rainfall record and *Pleocoma* activity may be summarized as follows:

Dates	*Rainfall*	*Comment*
Sept. 23–24	.04	First rain of fall season. No flight.
Oct. 6	.05	No flight.
*Oct. 21	.39	Small ♂♂ flight; ♀♀ not in evidence.
*Oct. 31–Nov. 1	.62	Good ♂♂ flight; ♀♀ found in ground.
Nov. 4	.09	No flight; ♂♂ and ♀♀ found in ground.
*Nov. 14–15	.77	Large ♂♂ flight; ♂♂ and ♀♀ found in ground.
Nov. 17–18	2.00	No flight; ♀♀ found in ground.
Nov. 22–23	.20	No flight; no holes visible on surface of ground.

PLEOCOMA SHASTENSIS Van Dyke

A single *Pleocoma* taken at Redding, Calif., in October, 1934, and very kindly presented to the writer by Prof. W. B. Herms, has been tentatively placed as a variety of this species. It agrees with *shastensis* in most essential respects, differing mainly in having a narrower prothorax, the clypeus scarcely at all emarginate at the apex, and the pubescence black instead of brown.



Antennæ of Pleocoma

Fig. 1—*Pleocoma behrensi* LeConte, male; 1a—female; 2—*Pleocoma sonomæ* Linsley, male; 2a—female; 3—*Pleocoma fimbriata* LeConte, male; 3a—*Pleocoma tularensis* Leach, male.

ON THE OCCURRENCE OF SOME CALIFORNIA CERAMBYCIDÆ

Neobellamira sequoiæ Hopping. This species, recently described from Sequoia National Park, has been captured near Carrville, Trinity Co., Calif., by Mr. Fred R. Platt. Although occurring over six hundred miles from the type locality, the Carrville specimen differs only in color from the typical form of the species.

Pogonocherus arizonicus Schffr. Through the kindness of Mr. Ralph Hopping I have recently examined the specimen on which he based his California record (1931, Pan-Pacific Ent., 7:105), for this species. The example proves to be *P. propinquus* Fall, and *arizonicus* should therefore be removed from our California lists.—E. Gorton Linsley.

Perhaps This Is Why

In a book recently published by one of our active young entomologists he deplores the tendency shown by the editors of our entomological journals to accept only short papers, thus often making it necessary for an author to split up what should have been a monographic work into a number of more or less disconnected articles. From his remarks one might infer a criticism on the management of these journals although he probably did not have that in mind. Of course this is purely a financial problem and it is probable that no one regrets more than the editors the necessity of turning down these monographic papers.

There are not too many entomological journels in this country and probably there are enough active entomologists to give them sufficient support so they could handle these longer papers. The difficulty seems to be that most of our entomologists are connected with some institution or government activity that subscribes to at least a part of these journals and they do not carry personal subscriptions. If the entomologists connected with such institutions do not feel it incumbent upon themselves to support the journals they should not feel surprised if these journals have to limit the length of the papers they can publish. We have in mind one such institution where one of our journals had six subscribers among its staff. Then a subscription was placed in the name of the institution and five of that staff cancelled their subscriptions, only one having loyalty enough to continue his. This is but one example, there are many more. If each professional entomologist would carry a subscription to a portion of the entomological journals used by him, these, with a certain number of subscriptions from amateur workers, would place our journals in a position where they could publish longer papers and issue them more promptly. This is submitted as a suggestion for the consideration of those writers who chafe under the very annoying delays in publication and the serious restrictions placed on the length of papers, made absolutely necessary under present conditions.—E. P. Van Duzee.

THREE NEW SPECIES OF PLASTOCERINÆ WITH NOTES CONCERNING OTHERS

(Coleoptera, Elateridæ)
BY KENNETH D. SLOOP
University of California

During the past several years some interesting data have been accumulated regarding the *Plastocerinæ*. It seems advisable to make this information known at this time along with the description of three species new to science.

Plastocerus maclayi Sloop, new species

Elongate, head and thorax black, elytra brown. Head closely, coarsely punctured, somewhat cribrate; antennæ extending beyond hind angles of prothorax to basal one-fifth of elytra, median antennal processes six times as long as segment, basal processes five times as long as segment. Eye small, sub-hemispherical. Front only slightly convex, clypeus subtruncate, head covered with long whitish pile. Pronotum as long as broad, closely, coarsely punctuate; entire surface covered with long rufous pile. Hind angles short, carinate, acute and strongly divergent; lateral margins strongly arcuate, somewhat expanded in front of middle. Scutellum entirely finely punctate. Elytra slightly more than three times as long as broad; entire surface densely covered with rufous pile. Striæ well impressed, intervals convex and sparsely punctate especially on disk; sides parallel for first two-thirds then gradually narrowing to apex. Legs and ventral surface brown, clothed with short recumbent, rufous pile. Length 13 mm., width 3 mm.

Holotype, male (No. 3928, C. A. S. Ent.), collected near Palmdale, California, July 18, 1934, from the California Juniper, *Juniperus californica* Carr, by Mr. A. T. McClay, who very kindly presented the specimen to me for study and to whom I dedicate this fine species. There is one designated paratype in the collection of the California Academy of Sciences, taken by Mr. Thomas Craig at Little Rock Dam, Los Angeles County, California, June 19, 1927.

P. maclayi in Dr. Van Dyke's[1] table runs to *P. amplicollis* Van Dyke. It may be compared with *amplicollis* as follows: the antennæ in *maclayi* extend beyond the hind angles of the prothorax while in *amplicollis* they do not reach the hind angles;

[1] Van Dyke, E. C., 1932, Proc. Calif. Acad. Sci., Ser. 4, XX, p. 457,

the median processes of the antennæ are about six times as long as the segments while in *amplicollis* they are four times the length of the segments, the eyes are much smaller than in *amplicollis*, the thorax has a short subangulate wing on the sides slightly in front of the middle, in *amplicollis* the sides are suddenly expanded in front into two truncate, wing-like processes; the elytra are gradually rounded from middle to apex, while in *amplicollis* the elytra are suddenly rounded at apex. *P. maclayi* is readily separated from *P. schaumi* Lec., by the longer antennæ, longer antennal processes, and the expanded sides of the thorax. In *schaumi* the sides of the thorax are suddenly arcuate at middle.

Plastocerus pullus Sloop, new species

Elongate, thorax and elytra black. Head closely, cribrately punctured, antennæ extending almost to hind angles of thorax, median antennal processes, black, slightly more than four and one-half times as long as segments, eyes small, sub-hemispherical. Front convex, clypeus sub-arcuate; entire head clothed with long erect pile. Thorax slightly broader than long, densely clothed with long, erect, rufous pile, coarsely, cribrately punctured; the sides abruptly expanded in front of middle into a short arcuate wing-like process; hind angles divergent, feebly carinate and acute. Scutellum cribrately punctured and densely clothed with rufous pile. Elytra nearly three times as long as broad, striæ not well impressed; intervals convex, finely sparsely punctate. Sides parallel for first two-thirds thence gradually rounding to apex. Ventral surface black and shining, clothed with short, whitish, recumbent pile; legs black, tarsi rufous. Length 11 mm., width 3 mm.

Holotype, male (No. 3929, C. A. S. Ent.), and five paratypes (in the colection of the author) all collected in May, 1926 and 1927 at Santa Paula by Mr. A. S. Harrison, who kindly permitted me to study the specimens.

P. pullus may be easily separated from *P. amplicollis* Van D. and *P. schaumi* Lec., by the longer antennæ, which reach to slightly beyond the hind angles. This species is distinguished from *maclayi* by the black elytra, shorter antennal process four and one-half times the length of the segment, the more expanded sides of the pronotum and the longer first tarsal segment of the middle legs which is longer than the following two. In *maclayi* the antennal processes are six times the length of the

segment, the sides of the pronotum are only slightly expanded and the first tarsal segment of the middle pair of legs is about as long as the following two.

For the sake of completeness it seems advisable to include Part 4 of Dr. Van Dyke's table[1] modified to include the two species here described.

4. A. Median antennal processes more than five times as long as segments; length 13 mm. Palmdale, Calif.....*maclayi* n. sp.
—. Median antennal processes less than five times as long as segments. .....B.
B. Prothorax with sides suddenly expanded in front into two wing-like processes, as wide at middle as at hind angles, color brown; length 11 mm. Coalinga, California.....*amplicollis* Van D.
—. Prothorax with sides not expanded in front into wing-like processes, not as wide at middle as at hind angles....C.
C. Eyes large, almost hemispherical, sides of prothorax broadly feebly arcuate, elytral striæ well impressed, color brown; length 11 mm. Southern California.....*schaumi* Lec.
—. Eyes small, sides of prothorax suddenly strongly arcuate at middle, elytral striæ feebly impressed, color black; length 11 mm. Santa Paula, California.....*pullus* n. sp.

Euthysanius brevis Sloop, new species

Robust, sub-parallel, rufous, shining, conspicuously clothed with short, reddish, erect pile. Head coarsely, closely punctured, and clothed with short, erect, rufous pile; eyes small, sub-hemisperical; antennæ not reaching hind angles. Median antennal processes two and one-half times as long as segment, entire antennæ clothed with long rufous pile, third segment but little longer than second. Pronotum slightly broader at middle than long, trapizoidal, shining, sides straight, slightly divergent to base; hind angles not divergent, carinate, short and obtuse; disk flat, coarsely, sparsely punctured, sides closely punctured. Scutellum elongate, obtuse at base and apex, slightly wider at base than apex, sparsely punctured and clothed with short, erect, rufous pile. Elytra almost three times as long as broad, entire surface clothed with short, erect, reddish pile especially at sides, shorter than abdomen, exposing the last two segments; sides gradually narrowing to apex, disk flattened, striæ feebly impressed at base, rather finely, closely punctured. Length 16 mm., width 5 mm.

Holotype, male (No. 3930, C. A. S. Ent.), and one paratype (in the collection of the author) taken in Sutter County, California, May 2, 1934, by Mr. E. R. Leach who very kindly presented the specimens to me.

The short elytra exposing the apex of the abdomen will separate *brevis* from all the known species of *Euthysanius*. This species runs to *E. pretiosus* Lec., in Dr. Van Dyke's[2] table, but is readily separated from that species by the trapizoidal pronotum, the small eyes, the straight-sided thorax and short, obtuse, non-divergent hind angles. In *E. pretiosus* Lec., the sides of the thorax are somewhat arcuate and the hind angles are longer, acute and carinate.

Recently I have received five specimens of *Plastocerus amplicollis* Van D.; all were collected in Kings County, California, three by Mr. F. W. Nunenmacher, and two by Mr. E. S. Ross.

Euthysanius lautus Lec., is a well known species taken throughout the southern part of California. Five specimens taken at Oxnard, California, June 10, 1934, by Mr. R. Kitchell, differ from typical *lautus* as follows: the antennal processes are shorter and the thoracic depressions are absent; there is also a slight difference in the length of the first tarsal segment of the hind legs and some variation in the shape of the pronotum.

The writer is indebted to Dr. E. C. Van Dyke, of the University of California and Mr. E. Gorton Linsley, of the same institution, for many helpful suggestions in the preparation of this paper.

A Convenient Pocket Book on Insects

We have recently received a copy of a new (third) edition[1] of Dr. Lutz' convenient little field book of insects. Like the former editions this is of pocket size and contains over 500 pages of text and 100 plates. Of the latter 23 are colored, the reproductions being remarkably true to nature. All the orders of insects are covered without the one-sided emphasis on certain orders so often found in books of this character. Keys are included to most of the families and many of the genera, and under each is a short account of one or more of the better known species from the eastern states. On the Pacific Coast we still have to wait for a convenient pocket book such as this. Professor Essig's book on Western Insects is rather too large for convenient use in the field, although in these days of the automobile this handicap has much less significance than it once did. All things considered there probably is no better book to put into the hands of the young beginner than this little book by Dr. Lutz.

[2] Van Dyke, E. C., 1932, Proc. Calif. Acad. Sci., Ser. 4, XX, p. 154.
[1] Field Book of Insects. By Dr. Frank E. Lutz, 16mo., G. P. Putnams, $3.50.

A NEW SCOLYTID BEETLE FOUND IN THE BARK OF LEMON TREES

(Coleoptera, Scolytidæ)

BY WALTER EBELING

University of California Citrus Experiment Station

In the fall of 1930, the writer became aware of some very small scolytid beetles burrowing in the dead bark and sapwood of lemon trees in a grove a few miles east of Orange, California. In November, 1932, these beetles were collected in the same grove and at that time in large numbers throughout the entire grove. Specimens were sent to Dr. M. W. Blackman for identification. Dr. Blackman placed the beetles in the genus *Hypothenemus*, but stated that they did not agree completely with the types of the various species of *Hypothenemus* in the U. S. National Museum. Likewise, the beetles were found to differ from the species of *Hypothenemus* in Dr. Van Dyke's collection.

Hypothenemus citri Ebeling, n. sp.

Female (figure 1). Length, 1 mm.; oblong, cylindrical, color black (brown in the case of newly-emerged adults), antennæ and legs ochraceous to testaceous.

Head not visible from above, extending but slightly from the anterior margin of the prothorax; antennal funicle 4-segmented, first segment twice as long as remaining three segments and twice as broad as either, the segments calyculate, club with four sutures, each marked by a row of spines, suture I with an inconspicuous septum.

Prothorax broad as long, with slightly elevated median apex, concentrically arranged rows of protuberances, and four prominent "teeth" on anterior margin, the median ones larger than the outer; margin feebly crenate, pubescence interspersed posteriorly with cuneate scales, tibia I with seven conspicuous spines on outer margin, tibiæ II and III with five spines on outer margin. Elytral margins sinuate, feebly incurvate, broadly rounded posteriorly, each elytron with eight striæ inconspicuously punctured and marked by rows of cuneate scales and closely approximate rows of small, fine hairs. Abdomen with four visible ventral segments, the first, second, third, and fourth, subequal in length, the second longer than the third.

Male, unknown.

Type locality: Orange, California.

Type (No. 3896) and paratypes in the Museum California Academy of Sciences, paratypes in the University of California Citrus Experiment Station collection and the writer's collection.

No males of the species have been found. The males in the genus *Hypothenemus* are reported by Hopkins[1] to be much *Xyleborus*.

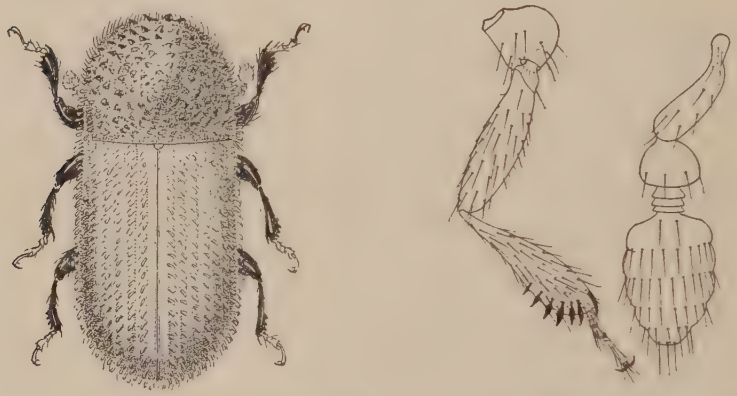


Figure 1. *Hypothenemus citri* n. sp. Left, adult; right, antenna and foreleg. (Drawing of adult by Mrs. Frieda Abernathy.)

smaller than the females and rare, as in the related genus

Figure 2. Galleries of *Hypothenemus citri* n. sp. in the sapwood of lemon.

[1] Hopkins, A. D., 1915. Classification of the Cryphalinæ with descriptions of new genera and species. U. S. D. A. Report No. 99, p. 12,

The burrows of *Hypothenemus citri* n. sp. (figure 2) appear to have no definite arrangement but wind about at randon. Upon removing the dead bark, many burrows are exposed in the sapwood, although the beetles occur more abundantly in the bark.

The insects occur only in dying or dead wood, which is in accord with the habits of the genus as far as they are known. Members of the genus are found in dying or dead bark, seed hulls, etc., of a great variety of plants.

The native flora nearest to the grove in which the beetles were found is about a mile distant. The writer has been unable to find the beetle in a number of other neglected orange and lemon groves in various parts of southern California. The fact that it has been found to be so abundant in a single grove and absent in other groves favorable for its development which have been examined, indicates that the species may have been introduced from elsewhere, or that it may have recently become established on citrus from one or more native hosts.

A NOTE ON DIANTHIDIUM SINGULARE PERLUTEUM T. & W. CKLL.

BY CHARLES D. MICHENER
Pasadena, California

Mr. P. H. Timberlake has kindly identified as this form two insects from my collection. He also advises me that the nest has not hitherto been recorded. One bee is a female from Mill Creek, San Bernardino Mts., California, August 31, 1930 (Michener, Coll.), which agrees with Dr. Cockerell's description (Bull. So. Calif. Acad. of Sciences, 1904), supplemented by that of Cresson (Trans. Am. Ent. Soc., 1878), except that it is about 1.5 mm. shorter and has no median black line on the last abdominal segment. The other is a male which emerged the following spring from a nest taken at the same locality September 1, 1930 (Michener, Coll.). The following notes are added to Dr. Cockerell's remarks concerning the male (Proc. Calif. Acad. of Sciences, 1925).

This male resembles the female but is a little larger with the yellow markings a little less extensive on the abdomen; pubescence deep ochraceous, possibly because it has never been exposed to the sun; punctures on the abdomen sparser and finer, those of the clypeus coarser; hind coxal spines very large, nearly as long as the rest of the coxa; posterior edges of the abdominal tergites 2 to 5 dilated and elongated posteriorly at the sides much more than in the

female, these processes being largest on segments 2 to 3, where they extend half way to the posterior edges of the following segments, their apices standing out from the sides of the following segments; sixth segment with a narrow impunctate longitudinal median line; pygidium yellow, except for the extreme base, and deeply trilobed, the lateral lobes divergent, rather narrowly rounded, narrower than the space between them and the median lobe, with a slight angle about half way from the apex of the lobe to the lowest part of the emargination; median lobe narrower than the lateral, narrowly rounded (almost pointed), about equal in length to the lateral lobes and to another narrow lobe beneath the median, with a longitudinal impunctate line occupying the dorsal surface of the lobe and extending about two-thirds of the way to the base of the pygidium.

The nest from which this specimen was bred consisted of a single cell of cemented gravel attached to the face of a large boulder. It could not be removed entire, but its estimated size was about 2 by 2.5 cm. The granite pebbles used ranged from 1 to 4 mm. in diameter, and showed no special arrangement as to size except that those forming the lining of the cell were mostly small and presented a flat surface within. About half of the outer surface was covered with cement, only the larger pebbles projecting above this coating. The cement was thin, except for this outer layer. The cocoon was opaque, dark brown, about 14 mm. long, with a paler brown nipple at the end from which the bee emerged.

Notes on Two Rare Elateroid Beetles

Sandalus californicus Lec. A series of eighteen specimens of this species was captured at Cypress, Orange Co., California, in September, 1932. The beetles were making short flights over a field of shrubby composites and were easily collected when they alighted on the stems of the plants.

Cerophytum convexicolle Lec. I have in my collection a male of *C. convexicolle* very kindly presented by Mr. E. R. Leach who took it in Santa Cruz County, California, on April 13, 1926. This rare species is so seldom taken that its capture seems worthy of record.—Kenneth D. Sloop.

FOUR HITHERTO UNDESCRIBED HEMIPTERA

BY E. P. VAN DUZEE

1. Okanagana sperata Van Duzee, n. sp.

Closely allied to *cruentifera* and *magnifica* but sufficiently distinct and best characterized by comparison. It has the prominent front of *cruentifera* and the heavily clouded apical wing veins of *magnifica*. Length to tip of abdomen 31 mm., expanse of wings 77 mm.

Head but slightly narrower than pronotum at anterior angles; vertex with a deep narrow groove between the ocelli, narrower and shallower in both the allied species; preocular area wanting the oblique grooves found in *magnifica*; supra- antennal plate produced distally in a prominent but obtuse angle, ending obliquely in both of the allied species. Front prominent as in *cruentifera* but less inflated, the expansion of the frontal groove more dorsal than in either of the allied species, and the anterior submarginal groove much deeper and narrower, the raised area behind it coarsely rugosely punctate as in *cruentifera* but wanting the coarse rugæ found in *magnifica*; median triangular posterior area flatter than in *cruentifera* and without the coarse rugæ found in *magnifica*; metanotum behind the scutellar X broader than in either of the other species. Wings as in *magnifica* (the right hind wing has but five apical areoles in place of the usual six, the left wing normal). Uncus as in *cruentifera*, wanting the small apical hook found in *magnifica*; valve long as in *magnifica* but more slender. Last ventral segment broadly, feebly arcuate at apex, its transverse depression deeper than in either of the allied species, broader and more nearly square and feebly sinuate in *magnifica*, more deeply excavated in *cruentifera*.

Color black; incised median line on vertex and anterior lobe of pronotum obscurely fulvous; costa nearly to apex of subcostal areole and basal membrane pale fulvous; narrow margin of dorsal segments 7 and 8 and extreme edge of preceding segments, widened laterally, broader margin of ventrals, last ventral segment except its broad base, valve except a lateral mark either side at base, and the legs pale orange; anterior femora black at apex, middle and hind femora and all tibiæ lineate with black, at least basally; veins of fore wings, except costal, black, the apical veins clouded with black to basad of the tranverse veins; basal area brown, bordered with black.

Holotype, No. 3895, Calif. Acad. Sci. Ent., a unique male, taken by Mr. Sam Smith of Riverside on pine in the mountains west of Trinity Center near Carville, Trinity Co., California,

May 24, 1934, and kindly presented by him to the California Academy of Sciences.

The heavily infuscated tegminal veins will distinguish this from *cruentifera* and the more swollen front from *magnifica*. The conspicuous heavy vestiture found in *magnifica* is also prominent in this species. The comparison with *magnifica* is made with a paratype kindly sent to me by Mr. W. T. Davis.

2. Banasa subcarnea Van Duzee, n. sp.

Size and aspect of *calva* Say; croceous, tinged with red on the corium and sometimes on the head and pronotum; tergum sanguineous. Length 10-12 mm.

Head as long as in *calva* but less narrowed anteriorly, coarsely, deeply punctate, these punctures forming four lines on the base of the vertex, but feebly indicated in *calva*. Pronotum impressed within the latero-anterior margins leaving them distinctly explanate; surface coarsely punctured, the punctures distant on anterior field, closer posteriorly, forming a broken ring about the callosities. Apex of scutellum narrower and more produced than in *calva*; surface coarsely punctate, more closely toward the apex. Elytra coarsely punctate; membrane hyaline. Antennæ shorter and thicker than in *calva*; segment II three-fourths the length of III, IV and V subequal. Rostrum almost attaining hind margin of posterior coxæ. Male pygofer sinuate-truncate across the middle of the emarginate apical margin, this margin fringed with pale hairs. In *calva* this margin is subangularly emarginate with a heavier vestiture of pale hairs. Styles obtusely triangularly widened at apex with a narrow black edge, in *calva* rounded at apex, its apical margin broadly arcuate, laterally rectilinear, the inner angle rounded, in *calva* sinuate laterally forming a rounded lobe medially. Pectus with shallow punctures, the venter nearly smooth; ventral tubercle short and blunt as in *calva*.

Color ochraceous with the elytra largely sanguineous; edge of head, expanded margins and base of pronotum, base of scutellum, and costal margin of corium green; margin of abdomen slenderly green with a minute black tooth at apex of each segment; antennæ rufescent beyond middle of segment III, in *calva* the base of V is obviously paler.

Type, male, No. 3889, and allotype, female, No. 3890, Calif. Acad. Sci. Ent., taken August 26, 1927, at Cave Creek, Chiricahua Mts., Arizona, at 5,000 to 6,000 feet, by J. A. Kusche; paratypes numerous specimens taken at the same place, August 22-27, 1927, and on Washington Mts. near Nogales, Arizona, Septem-

ber 7, 1927, all taken by Mr. Kusche, and one pair taken by Mr. W. H. Mann in Ramsay Canyon, Huachuca Mts., Arizona.

I have seen this species determined as *subrufescens* Walker but that is a smaller species with shorter head, feebly arcuate latero-anterior pronotal margins, broader scutellum, etc. It can at once be distinguished from *subcarnea* by its having the apical margin of the basal plates of the female together broadly excavated. *Banasa induta* Stal from Brazil differs in its narrower head, less rugosely punctate surface and bicolored pronotum, the sdies of which are but feebly depressed.

3. Apateticus anatarius Van Duzee, n. sp.

Closely allied to *cynicus* Say, a little broader with less acute humeri and different male genitalia. Length, male 15, female 18 mm.

Head broader anteriorly than in *cynicus* with the sides sinuate; cheeks broad and rounded at apex, somewhat surpassing the tylus but not meeting before it, coarsely irregularly punctate, the punctures scarcely forming rows on the vertex, or only one row next the ocelli proximally; median length of pronotum one-third its humeral width; humeri subacute; surface coarsely rugosely punctate; antero-lateral margin feebly sinuate, coarsely dentate before the angulate humeri; scutellum very roughly irregularly punctate, more sparsely so at apex; discal area of elytra more sparsely finely punctate. Antennæ stouter than in *cynicus*; segment I not twice as long as thick, II longest, the proportionate lengths are 10:45:32:36:32, IV being just a little longer than III and V. Rostrum attaining base of hind coxæ; segments as 25:30:20:25; venter sparsely weakly punctured. Median plate of female genital segment quadrangular as in *cynicus*. Male genital characters very distinct; ventral claspers produced obliquely from a broad flattened base in a long straight linear tongue as long as rostral segment III; dorsal clasper flat, vertical for half its length then abruptly bent outwardly at apex and produced in a nearly terete black member, giving it a little the aspect of a duck's head when viewed from below; lateral papillose plates almost triangular, more produced than in the related species.

Color a paler yellowish than is general in related species, somewhat tinged with red on the elytra, punctures castaneous to black, a few of a metallic green on base of vertex and at outer end of callosities, the humeral angles and a square spot on the connexivum either side of the sutures metallic green, reproduced as a black line below; membrane somewhat fuliginous.

Holotype, male, No. 3891, and allotype, female, No. 3892, Calif. Acad. Sci. Ent., taken by Dr. E. D. Ball, July 23, 1932, on the Santa Catalina Mts., Arizona.

The extent of the green puncturation on the base of the pronotum and scutellum undoubtedly varies in this species as it does in *bracteatus* but it is merely suggested in this pair, which, however, have the humeral angles conspicuously green. The square median plate of the genital segment places this species near *cynicus*, from which it differs widely in the form of the male claspers. Our other two species, *bracteatus* and *crocatus*, if I have them properly identified, differ much from these but agree between themselves in the triangular form of the median genital plate of the female and the form of the male claspers, and may not be specifically distinct from one another.

This is but one of the many interesting Hemiptera turned up by Dr. Ball during his investigations of the insect fauna of Arizona. Few states have a more interesting insect fauna than Arizona, due in part to the fact that Mexican representatives of the lower Sonoran fauna there reach the northern limits of their distribution.

4. Malezonotus grossus Van Duzee, n. sp.

Allied to *sodalicius* Uhl. but larger and broader with black femora and the antennæ, except the first segment, brown. Length 5.5-6.5 mm.

Head more opaque than in *sodalicius*, without the bronzy glint found in that species. Antennæ thicker, clothed with minute pale pubescence; length of segments as 6:18:15:16; segment I with a few stiff bristles. Pronotum as long as broad measured near the humeral angles; surface shagreened, the posterior lobe very obscurely punctate, its length about one-third that of the anterior lobe. Scutellum one-fourth broader than long. Clavus with three regular rows of punctures and a few scattering ones between the inner rows; corium irregularly punctured, the punctures fine, closer and infuscated along the median area; membrane more or less embrowned, with fuscous nervures. Rostrum attaining base of middle coxæ. Anterior femora strongly incrassate, with one stout subapical tooth and one or two minute ones. Tibiæ spinose as in the allied species. Whole surface minutely golden pubscent.

Color dull black; lateral and posterior margins of pronotum with a connecting humeral spot, extreme tip of the scutellum and the elytra yellowish or ochraceous, the punctures on the latter

brown except on the costal area; median area infuscated as in the allied species; beneath black, polished on the venter; tip of tylus, antennal I and apex of II, acetabulæ, coxæ in part, trochanters, apex of femora and the anterior and intermediate tibiæ fulvous yellow; rostrum fulvous, becoming piceous at base and apex; eyes castaneous. Described from a series of fourteen females.

Holotype, female, No. 3893, Calif. Acad. Sci. Ent., and 10 paratypes taken at Potwisha, Sequoia National Park, California, June 13-20, 1929, Crescent Meadows, Sequoia National Park, June 19, 1929, and Homestead Inn, Mt. Hood, Oregon, July 6, 1927, all by Dr. E. C. Van Dyke. Big Bend Mountain, Butte Co., California, May 23, 1928, H. H. Keifer.

This is a larger, slightly broader and a darker species than *sodalicius* from which it may be superficially distinguished by the polished black femora. The color of the antennæ is subject to much variation.

SOME RECENT NEUROPTEROID PAPERS

BY E. P. VAN DUZEE

Perhaps the most important entomological event in this country since the appearance of our last issue is the publication of Dr. Cornelius Betten's Report on the caddisflies of New York State which has been issued as Bulletin 292 of the New York State Museum. For 17 years our entomologists have been waiting, sometimes I fear with scant patience, for the appearance of this important paper. It makes a book of some 500 pages with 67 carefully drawn plates. Like the preceding reports in this series on the aquatic insects of New York State it is altogether a credit to the museum issuing it. It is certainly a pity it could not have been published 17 years earlier when it was first submitted to the Regents of the Museum, so our workers could have had a foundation to build upon. However we all are thankful that it is now available. This work lists 568 species about one-half of which are from east of the Mississippi River, the balance being western. It may be a surprise to many not acquainted with the literature of this order that over 300 of the species have been described by Dr. Nathan Banks. The balance are by various authors, including 18 described as new in this report. The systematic portion fills about four-fifths of the work. In this section there are keys to the families and genera, with

descriptions, either original or copied, of all the species from east of the Mississippi. At the end of each genus the author gives us a list of the known species from west of the Mississippi and from America south of the United States. Preceding the systematic portion are chapters on geographical distribution, morphology, habits and relationships of the Trichoptera. We cannot but hope that some day we may have a similar report on the caddisflies of the western states.

In strong contrast to this work by Dr. Betten are two short brochures entitled "Studies in North American Trichoptera" by Lorus J. Milne, one published in April, 1934, the other in January, 1935, together containing 56 pages. Dr. Milne found himself confronted by the problem of how to get prompt publication and solved it by having his papers privately printed by a process reproducing his type-written manuscript, the appearance of which is marred by the arrangement of the page and the character of the type used. In these papers he gives keys to the genera and species in four families, the Phryganeidæ, Molannidæ, Leptoceridæ and Limnephilidæ. His work in a measure supplements that by Dr. Betten but his keys are very brief and unfortunately he has established many new species and subspecies in a few words in the keys but without a description. Mr. Milne probably plans to follow these by fuller descriptions of the new species, but until then it may be difficult to be certain just what his new species are.

Another paper on the Neuropteroid orders appears as article IV of Vol. XX of the Illinois State Natural History Survey. It is on the Plecoptera or stoneflies of Illinois and is by Dr. Theodore H. Frison. Dr. Frison has made a careful study of this order as found in Illinois and in this report he gives us a most interesting account of the life history and habits of these insects, a list of the Illinois species with keys to the families, genera and species, and 14 plates of anatomical details that will be most valuable in the determination of the species. In most cases he gives figures of the nymphs. Used in connection with Needham and Claassen's Monograph Dr. Frison's report should simplify the study of the Plecoptera of the eastern United States and pave the way for a similar work on the species of the west coast area. This series of reports on the insects of Illinois is placing that state in the forefront in scientific research.

DESCRIPTION OF THE MALE OF WILLISTONINA BILINEATA (WILLISTON) TOGETHER WITH A NEW FORM (DIPTERA-ASILIDÆ)

BY J. WILCOX

The genus *Willistonina* was erected by Back for *Habropogon bilineatus* Williston described from northern California (O. T. Baron). Both the genus and species apparently were described from a single female specimen and, so far as I know, no other specimens have been reported taken. It seems worth while, therefore, to record additional captures and to describe the male and a new form on hand.

WILLISTONINA BILINEATA (Williston)

Habropogon bilineatus Williston, Trans. Amer. Ent. Soc., vol. 11, p. 11 (Plate I, fig. 8), 1884.

Willistonina bilineatus, Back, Trans. Amer. Ent. Soc., vol. 35, pp. 337-339 (Plate IV, fig. 5, and Plate VII, fig. 3), 1909.

Male. Length 13.5 mm. Head black in ground color, lower cheeks, palpi, and proboscis shining; face and front densely gray pollinose with a slight yellowish tinge; occiput yellowish pollinose. Mystax dense white, confined to the oral margin; short bristly hairs on the front and ocellar tubercle black, the latter with a longer pair directed anteriorly; occipito-orbital bristles yellowish, short and numerous; sparse beard and very sparse hairs of the palpi and proboscis white. First and second antennal joints short, subequal in length, with short black hairs; first and lower half of the second shining reddish, the remainder of the second black; third black, thinly gray pollinose, about twice the width of the second joint, narrowed anteriorly at the base and apex; style very small, cylindrical, slightly longer than wide and with a short blunt bristle at the apex.

Mesonotum black in ground color with a broad central stripe of this color widened anteriorly and very narrowly bisected by a golden pollinose line; dorsocentral stripes and the transverse suture dull golden pollinose; humeri and lateral margins gray pollinose; intermediate area, divided by the transverse suture, dull brownish. Hairs short, sparse, black; bristles mostly black, two short yellowish humerals, one posthumeral brownish, two presuturals, one brownish and the other black, two to three supra-alars, two post-alars, and six dorsocentrals beginning at the transverse suture and extending posteriorly. Scutellum black, densely gray pollinose; three pairs of marginal bristles, one brownish, the remainder black.

Pleuræ reddish in ground color, densely gray pollinose; fine hairs on the propleuræ white, bristles of the collar yellowish; mesopleuræ nearly bare, with a few very short hairs above and below; hypopleuræ with a patch of short yellowish bristles.

Abdomen black and red in ground color, most segments with the basal one-half or two-thirds black and the apical one-half or one-third reddish. On the sides of the segments there is a shining wedge-shaped spot which does not reach the anterior or posterior margins excepting on the last two segments, widest anteriorly. Posterior margins densely silvery pollinose, appearing yellowish at some angles, the pollen extending forward on the sides (inside of the wedge-shaped spots) to the anterior margins, and on most segments widening and reaching the lateral margins anteriorly. Remainder of the segments golden-brown pollinose, but looking at the abdomen posteriorly it appears opaque black excepting the posterior yellowish margins. A large clump of yellowish hairs on the sides of the first segment and a few similar hairs on the sides of the second segment; remainder of the hairs very short, appressed, yellowish on the sides and posterior margins, black otherwise. Venter mostly reddish brown, shining, silvery pollinose except for a narrow median longitudinal line and two posterior lateral spots on most segments; hairs short, yellowish. Hypopygium short but slightly projecting, mostly contained in the seventh and eighth segments which are widened ventrally; shining reddish and yellow haired excepting that the base of the hypandrium is black with black hairs. Surstyli about as broad as long with two short, blackish, finger-like projections at the upper apical angle. Hypandrium transverse, slightly emarginate at the middle posteriorly. Epandrium composed of two short rounded lobes connected with a transverse thin plate.

Coxæ mostly reddish in ground color, densely gray pollinose; the fore and middle pairs with dense, long, white hairs anteriorly, the hind ones with a few short, stout hairs anteriorly and a row of stout hairs on the outer posterior edge. Remainder of the legs shining, very thinly gray pollinose; femora black with a complete reddish stripe ventrally which is expanded basally on the posterior side of the fore and middle pairs; tibiæ black with the dorsal surface of the fore and middle pairs reddish on the basal two-thirds, hind pair narrowly reddish basally; tarsi and claws black; pulvilli and empodia brownish. Femora, tibiæ, and the basal two tarsal joints with numerous very short, recumbent, yellowish hairs, becoming black and stouter on the outer three tarsal joints: bristles yellowish, somewhat darker on the outer tarsal joints.

Halteres brownish. Alulæ yellowish, with a nearly white margin and fringe. Wings uniformly light brownish; veins brown; anterior crossvein slightly beyond middle of discal cell; fourth posterior cell narrowly and the anal cell very narrowly open.

Described from a male, Hanson's Resort, Jefferson County, Oregon, July 29, 1929 (E. C. Van Dyke); Calif. Acad. Sci.

A female (length 15 mm.) of the same data as the male in the Calif. Acad. Sci., and the following specimens have been seen: *Washington,* Virden, IX-5 '32 and IX-4 '33 (C. H. Martin), Easton, VIII-23-1933 (Wm. W. Baker); Signal Peak, Ranger Station, VII-21 '34 (Wm. W. Baker); and Rainier National Forest, Sawmill Flat Camp, VIII-10 and 14 '34 (Wilcox).

Willistonina bilineata nigrofemorata Wilcox, new subspecies

This form differs from the above by having the femora and antennæ entirely black, usually all of the mesonotal bristles and part of the occipito-orbital bristles black, and the hairs of the genitalia mostly black.

Holotype No. 3931, male (length 11 mm.), Idlewild, California, VI-29 '28 (E. C. Van Dyke), in the California Academy of Sciences.

Allotype No. 3932, female (length 13 mm.), same data as holotype.

Paratypes: One female, same data as types; eight specimens, both sexes, Antelope Mt., Grant County, Oregon, 5,000 feet, VII-8 '32, and Hart Mt., Lake County, Oregon, 7,000 feet, VII-30 and 31 and VIII-2 '32 (D. K. Frewing), in the writer's collection; Merritt, British Columbia, VIII-3 '31 (J. Nottingham), two specimens in the University of Kansas collection; Victor, Montana, VII-8 '18, one specimen in the Montana State College collection; and Hamilton, Montana, VI-18 '33, reared from larva collected in garden, V-20 (C. B. Phillip), one specimen in the writer's collection.

The long, dense, white hairs on the fore and middle coxæ of the males are represented by shorter and more scattered hairs in the females.

Pupa. The pupal case accompanied the specimen from Hamilton, Mont., mentioned above, so it is briefly described as follows:

Length 10 mm. Slightly curved; head, abdomen, and legs excepting the right fore coxa yellowish-brown, more or less transparent; thorax and wings opaque shining yellowish-white. Legs and wings

compactly extended below on the venter, the wings overlapping the hind legs; wings and fore legs reaching posterior margin of the first abdominal segment, middle and hind legs reaching slightly beyond the anterior margin of the third segment. Thorax and head split longitudinally and the head transversly in front of the eyes. Eyes occupying the entire posterior portion of the head, and on either side at the lower edge is quite a large rounded tubercle. Dorsum of head (before eyes) with a pair of large thorns directed anteriorly, rather widely separated and on separate tubercles, and on each side with a set of three slightly smaller thorns arising from a single base or tubercle. Thorax without spines or bristles excepting a very minute, rounded tubercle above the base of the mesothoracic legs; prothoracic spiracle roundly oval, poorly defined, with a smaller, somewhat raised, brown reniform central area. Abdomen on each segment excepting the last with a dorsal transverse row of very short, quite stout, posteriorly directed spines as follows: First segment, 12 spines in a row, the row on the anterior margin, the middle pair of spines and the next to last one one either side smaller; second, third, and fourth segments with rows slightly beyond the middle posteriorly, the second and third with 16 spines each and the fourth with 14, the 3 or 4 central spines and the outer 1 or 2 on either side smaller, one spine in each of the second and third rows forked at the tip; fifth and sixth segments with the rows on the posterior margins, the fifth with 14 spines and the sixth with 12; seventh and eighth segments each with 6 spines, the rows located at the posterior two-thirds of the segments; and the ninth with two pairs of spines, the spines above much larger than the lower ones. Abdominal spiracles very small, round, located at the dorso-anterior angles; two postspiracular bristles on the first segment, and three each on segments 2 to 7. Venter of abdomen without spines or bristles.

In Malloch's Key*, this genus would be thrown out in the first couplet, as it differs from *Leptogaster* by having the two large forwardly directed thorns on the head, and from the other genera included *(Promachus, Ceraturgus, Dasyllis, Erax, Proctacanthus,* and *Asilus)* by the spines on the abdomen not alternating large and small. The absence of spines or bristles on the venter of the abdomen apparently also differentiates it from the genera mentioned above.

I am indebted to the California Academy of Sciences, the University of Kansas, and the Montana State College, and to C. B. Philip, C. H. Martin, and Wm. W. Baker, for the loan of specimens.

*Malloch, J. R. 1917. "A Preliminary Classification of Diptera, Exclusive of Pupipara, Based upon Larval and Pupal Characters, with Key to Imagines in Certain Families. Part I." Bull. Ill. Lab. Nat. Hist., v. 12 art, 3, p, 375-377.

STUDIES IN AMERICAN SCARABAEIDÆ—II.

BY LAWRENCE W. SAYLOR

University of California
Berkeley, California

Diplotaxis falli Saylor, n. sp.

Holotype. Oblong, a little wider behind, piceous, moderately shining, glabrous above. Labrum moderately arcuately emarginate, the lateral angles not prominent. Mentum as in *atlantis*, transverse raised line obsolete, without hairs, posterior three-fifths of disc convex, anterior two-fifths rather sharply declivous. Head and clypeus densely rather coarsely punctured, somewhat more sparsely around vertex, front convex, with two very faint impressions each side of middle; clypeal suture arcuate, not impressed; clypeus moderately reflexed in front, margin slightly emarginate, lateral margins faintly sinuate at genæ, surface of disc flattened. Prothorax widest at about the middle, sides broadly arcuate, slightly convergent posteriorly, a little more so in front; disc moderately closely punctured throughout, a little less so at middle, a small area near hind angles sparsely punctured. Elytra three times as long as prothorax and slightly wider; punctures somewhat coarser and sparser than those of prothorax; costæ indistinct, each with a row of punctures, first intercostal space closely confusedly punctate, second and third irregularly punctured, but less broadly so than first. Body beneath sparsely but coarsely punctate at sides, the punctures much finer at middle; abdominal segments with short fine hairs at sides. Pygidium coarsely rugosely punctate; propygidium with a shallow coarsely punctured apical marginal groove. Upper tooth of front tibiæ midway between base and apical tooth. Basal joint of anterior tarsi not compressed. Hind femora with complete marginal rows of punctures, one small line of punctures in middle near base and one or two punctures near middle of apex. Ungual tooth slightly postmedian, the apex of the tooth about midway between base and apex of the claw.

Length, 12 mm. Width, 6 mm.

Type. Victorville, California, June 9, 1930, in the collection of the author. A designated paratype has been deposited in the collection of Dr. H C Fall, who has informed the writer that he has several other examples apparently of this species.

D. falli is most closely related to *D. insignis* Lec. from Utah. From *D. sierræ* Fall, which it resembles, it is easily separated by the smaller size, less rugose elytra, claws, puncturation of hind femora, etc.

I take pleasure in dedicating this species to Dr. H. C. Fall, who has done such excellent work in making known the members of this difficult genus. Dr. Fall has very kindly examined the holotype of this species.

DIPLOTAXIS KNAUSII Schf.

This species has been taken in numbers in the Coachella Valley in California; it has not been recorded from this state before.

HOPLIA LECONTEI Dalla Torre

It seems to have escaped notice that the species which is now labeled in our collections as *H. pubicollis* Lec. (1856) should be known as *H. lecontei* since the former name is preöccupied by a species of Kuster (1849) from Sardinia. This correction should be made in our catalogues and collections.

APHODIUS LUXATUS Horn.

This spring at Ben Lomond, Santa Cruz Co., California, I took several examples of this species from under the dirt on the floor of the runway of our common ground squirrel, *Citellus beechyi*. Specimens of *A. militaris* and *A. fucosus* were taken with the above species. *A. luxatus* is extremely rare, *A. militaris* is very rare and *A. fucosus* is found at all commonly only in a few localities in the south of the state; I do not recall having seen any references as to the habits of the first two species before, and the recent paper of Davis and Sloop is the first record of the habitat of *A. fucosus*.

PLECTRIS MOSERI Saylor, nom. nov.

This name is now substituted for one used by Moser for a species from the Amazons (Stett. Ent. Zeit., Vol. 79, 1918, pg. 157), which name was all ready preöccupied by one of Bates species from the same region (Biologia Cent. Amer., Vol. II, Pt. 2, 1887, pg. 153).

A NEW SPECIES OF FALSE SCORPION (HESPEROCHERNES) FROM A BIRD'S NEST IN MONTANA

BY JOSEPH CONRAD CHAMBERLIN
(Arachnida—Chelonethida)
Associate Entomologist, U. S. Bureau of Entomology, Twin Falls, Idaho

The writer is indebted to Dr. C. B. Philip of the U. S. Public Health Service at Hamilton, Montana, for the material upon which this brief report is based.

The only species represented and hereinafter described is the third form certainly referable to the genus *Hesperochernes*. It is of interest to note that all three of these species seem to be associated with other organisms. Thus *H. laurœ* Chamberlin (from Califorina) is known only from wasp nests (Vespa); *H. tamiæ* Beier (from New York) was collected from the nest of a chipmunk (Tamias), while the present species is from a bird's nest.

Family CHERNETIDÆ Chamberlin
Subfamily CHERNETINÆ Beier

Hesperochernes montanus Chamberlin, sp. nov.
(Fig. 1)

Holotype. Male (JC-796.01001), collected in a bird's nest at Girds Creek, Ravalli County, Montana, May 30, 1931, by W. L. Jellison. No other material is at present available. The type will probably be deposited in the U. S. National Museum.

Diagnosis (on basis of male only). A typical representative of the genus except for the acute basal seta of the chelicera. Carapace normal, distinctly longer than broad and broadest midway between the two carapacal furrows; anterior furrow medially transverse, laterally procurved, and distinctly posterior to median; posterior furrow gently procurved and closer to posterior border of carapace than to the anterior furrow; weak, nongranulate eye-spots present. All tergites and sternites divided except the eleventh. first four tergites distinctly narrowed, the third especially so; tergal chætotaxy: $18:18:18:\frac{2-0}{20}:\frac{2-2}{18}:\frac{2-2}{18}:\frac{6}{18}:\frac{6}{16}:\frac{6}{12}:\frac{6}{12}$; the biseriate tendency indicated is mostly obscure except on the posteriormost segments; sternal chætotaxy similar to the tergal chætotaxy but numbering 30–34 setæ per segment. Anterior stigmatic plate with two simple setæ, posterior with one simple seta. Eleventh tergite and sternite each with a lateral pair of short pseudo-tactile setæ. All sternites with a loosely clustered band of discal microlyrifissures which number 30–40 per scutum. Carapace, tergites,

and palps evenly granulate. Tergal and carapacal vestitural setæ denticulo-spatulate (fig. 1, F); sternal seta simple and acuminate; palpal and dorsal pedal setæ stout and denticulate to denticulo-spatulate (fig. 1, F and GO). Palps moderately robust (fig. 1, B); heel of trochanter weakly bi-gibbose; femur with sides nearly parallel, weakly convergent distally; tibia normally convex interiorly and exteriorly, with a weak distal excavation interiorly; chela more strongly swollen interiorly than exteriorly; trochanter 1.74 times as long as broad; femur longer than hand or fingers and slightly shorter than the greatest carapacal breadth, 2.95 times as long as broad; tibia slightly shorter than femur and 2.5 times as long as broad; chela 2.7 times as long as broad; fingers and hand nearly sub-equal in length, the fingers being slightly the longer; hand longer than broad (1.4 times). Fourth pedal femur (pars basalis plus pars tibialis) longer than breadth of palpal hand and only slightly shorter than its length, 3.5 times as long as deep; tibia of fourth leg shorter than femur (as given above) and 5.5 times as long as deep; fourth tarsus shorter than palpal trochanter or breadth of chela. Cheliceræ normal except that the basal seta is apparently acute instead of denticulate; the sub-basal seta is short and stout with three or four terminal denticles; galea short, with three or four short terminal branches (partially destroyed in course of clearing in potassium hydroxide, see fig. 1, C and D). Chætotary of chela (fig. 1, A) typical of the genus; accessory teeth number four to six both exteriorly and interiorly on either finger, arranged as indicated in fig. 1, A; marginal teeth of chela number 47 to 48 on either finger; the exterior condyle of the movable finger of the chela strongly developed, as is often the case in many male chernetids (fig. 1, A). Male genitalia as shown in accompanying sketch (fig. 1, E). Length of adult male (cleared in potassium hydroxide) 3.0 mm.; abdominal breadth 1.4 mm.; length of palpal femur 0.79 mm.; of palpal chela 1.32 mm.

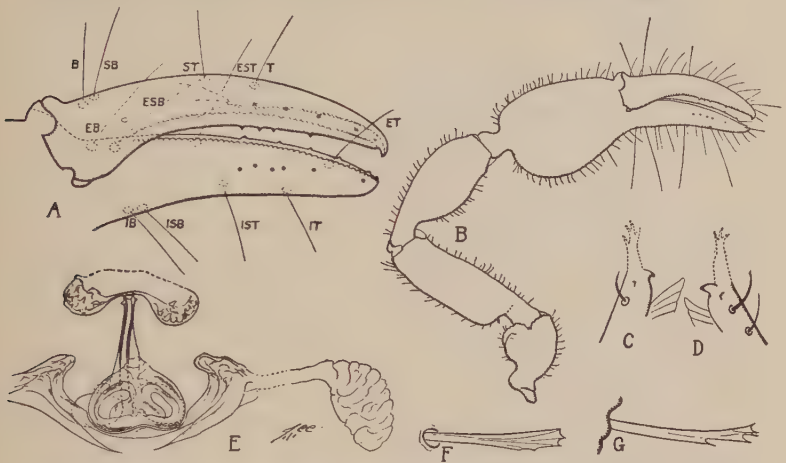
Remarks: The holotype exhibits an interesting abnormality in the right chelicera where the galeal seta is doubled (fig. 1, D). The left chelicera is normal in this respect (fig. 1, C).

This species differs from *H. lauræ* Chamberlin[1] in the tergal chætotaxy, in the character of the basal cheliceral seta, and in the number and pattern of the accessory teeth of the chela. The male genital structures apparently also exhibit differences. From *H. tamiæ* Beier, it differs in the more slender palpal proportion[2]. As regards the differentiation of *montanus* sp. nov. from some of the North American species previously described under the

[1] Chamberlin, J. C. *Hesperochernes lauræ*, A New Species of False Scorpion from California Inhabiting the Nest of Vespa. Pan-Pacific Entomologist 1:(2): 89-92. 1924.

[2] Beier, Max. Pseudoskorpione des Wiener Naturhistorischen Museums. III. Annalen Naturhistorischen Museums in Wien. 1930. (P. 214.)

"genus" *Chelanops*, little can be said until the types of these forms have been adequately redescribed. It appears likely, however, that "*Chelanops*" *æqualis* Banks is a more or less close relative.



Hesperochernes montanus sp. nov. (All figures from male holotype). A, intero-ventral aspect of chela; B, ventral aspect of palp; C, dorsal aspect of tip of movable finger of left chelicera showing normal galeal seta; D, ditto of right chelicera showing the abnormally doubled galeal "seta"; E, sketch of male genitalia (somewhat distorted by the potassium hydroxide treatment); F, denticulo-spatulate tergal seta; G, stout, denticulate palpal seta.

A NEW RACE OF DASYFIDONIA AVUNCULARIA GN.

BY EDWARD GUEDET
Napa, California

Dasyfidonia avuncularia macdunnoughi Guedet, n. race

Avuncularia Gn. is pictured in Packard's Geom. Moths, Plate 9, fig. 49; in Holland's Moth Book, Plate 42, fig. 32; and by Oberthur. It is found in June and July in southern Oregon and through California in the Sierra Nevada Mountains. Normally it flies low, in the daytime, and is fond of resting on the ground. A new race of this species is found in April, in San Bernardino County, California, near the summit of Cajon Pass, about nine miles southwest of Victorville. It flies in abundance, at a little height above the ground, and rests on low growing shrubs. Compared with the typical form it may be described as follows:

Antennæ, palpi and body as in typical form. Ground color of primaries grayish, heavily sprinkled with black and whitish scales; basal line blacker, more prominent, shaded outwardly with whitish,

thickly irrorated with black; median line a trifle more diffuse than in the typical form; t.p. line more sharply outwardly oblique from costa to M3, then sharply oblique inwardly to Cu2, then again outwardly oblique, but much less sharply, to A1, then in an inward curve to inner margin. This line is shaded outwardly by a blackish band. The subterminal white shade is prominent, less sinuous than in the typical form, being almost parallel with the outer margin for three-fourths its length.

The ground color and lines of the secondaries are the same as in the typical form. The discal dot is regularly outside the t.a. line. The t.p. line is fainter, not so sharply toothed. The marginal black band is wider.

On the under side, the primaries are as in the typical form, the lines usually absent, or when present, very faint. The secondaries are more mottled, with pepper and salt effect, almost marbled, lines and discal dot showing through.

Holotype, male (No. 3935 C. A. S., Ent.) Cajon Pass, Cal., April 3, 1934; allotype, female (No. 3936 C. A. S., Ent.), same data; paratypes, 12 males, 5 females, in author's collection; 9 males, 1 female in collection of J. E. Cottle, Hayward, Cal.; 2 males, 1 female in Canadian Nat. Coll., Ottawa, Canada.

To this race we give the name *macdunnoughi*, in honor of Mr. J. MacDunnough, chief, Division of Entomology, Department of Agriculture, Ottawa, Canada, to whom we are indebted for many favors.

This race may be known by the grayish black color, by the direction of the t.p. line on the upper side of the primaries; by the position of the discal dot, and by the mottled underside of the secondaries.

A Genus New to the United States

(Scarabæidæ, Coleoptera)

Ceraspis (*Faula*) *pilatei* Har.

I have a specimen before me of this species from the Chiricahua Mts. of Arizona, V-14-'09, collected by Dr. E. C. Van Dyke. This is, to the best of my knowledge, the first record of the genus north of Mexico. The widely separated hind coxæ, moderately separated middle coxæ, uncleft tarsal claws, slightly elongate first and sixth abdominal segments, very convex pygidium, rufo-castaneous color, and sparse elongate white vestiture over the entire body, should readily distinguish the species. This has been compared with specimens in the British Museum by Mr. H. E. Hinton at the author's request.—Lawrence W. Saylor.

SOME CALIFORNIA BEES

BY T. D. A. COCKERELL

During June and July of the present year (1934) I had the opportunity of working with Mr. P. H. Timberlake at the Citrus Experiment Station at Riverside, California. Mr. Timberlake has long studied the bees of the Pacific Coast Region of North America and has built up a collection which is unexcelled for the perfection of the mounting, the length of the series, the accuracy and detail of the data, and the care with which the specimens are sorted out into species. The collection is kept under the best conditions in a new fireproof building. It might be supposed that the bee fauna of California is well known, in view of the very numerous papers dealing with the subject. This is so far from being the case that new species may be discovered almost any day during the season. The climatic and other physical conditions are so varied, and the flora is so rich in peculiar genera and species, that it is not surprising that specific differentiation among the bees has gone far, producing an assemblage of diverse forms, the number of which it would be hazardous to calculate. While I was at Riverside Mr. Chas. D. Michener came in with a large collection of bees obtained by him in the region about Pasadena. Although Pasadena is only a short distance from Riverside several of the species were entirely new to Timberlake and presumably all of them undescribed.

The black Osmiine bees described below were sorted out by Mr. Timberlake and handed to me for description. I am entirely indebted to him for the opportunity of studying them and for advice concerning them. Unless otherwise stated, the types are in the collection of the Citrus Experiment Station at Riverside, California.

Osmia timberlakei Cockerell, sp. n.

Female. Length about 8 mm., anterior wing 5; robust, black, with white hair, abundant and woolly on face, cheeks, sides of thorax, metathorax, and mainly covering the short broad abdomen, the rather broad pale reddish margins of the tergites showing through, and more or less indications of dark (bare or thinly clothed) bands, especially on second tergite, but in perfectly fresh specimens this might not be so apparent; ventral scopa pure white; head massive, considerably broader than thorax, facial quadrangle about square; eyes black; mandibles broad, tridentate, the apical portion broadly banded with dusky red; labrum black; clypeus dull and excessively

minutely punctured, covered with hair which in front view appears gray; flagellum rich red, black at extreme tip and base; vertex dull and excessively minutely punctured; mesothorax and scutellum dull and excessively minutely and densely punctured; middle of base of metathorax with a transversely oval shining area on which are two pits, the whole like the end of a pig's snout; tegulæ bright red; wings hyaline, very faintly brownish, stigma and nervures dark, but the basal nervures reddish; basal nervures falling a little short of nervulus; recurrent nervures about equally distant from base and apex of second cubital cell; femora stout, bright chestnut red; tibiæ and tarsi black with white hair, the tarsi a little reddish apically; front tibiæ partly red on inner side; spurs pale yellowish.

At flowers of *Palafoxia linearis*, opposite sand dunes, road to Palm Springs, California, April 23, 1933 (Timberlake). Very distinct from all relatives in this fauna (described below) by the bright red femora, these being black in the other species. The maxillary palpi are short, five-jointed; first joint stout, black, immovable; second dark, the others reddish; third joint much the longest; fourth less than half the length of third; fifth minute, slender. Notauli small and weak, linear.

Osmia arefacta Cockerell, sp. n.

Female (Type). Length about 7 mm., anterior wing 4.4; black, the head and thorax perhaps very faintly greenish but so indistinctly as to be doubtful; abundant long white hair on face, cheeks, tubercles, pleura and metathorax, on thorax above it is dull and distinctly yellowish; head rather oblong, facial quadrangle longer than broad; labrum black; mandibles tridentate, black, very obscurely reddened subapically; flagellum dark red beneath, except basally; vertex very finely and densely punctured; mesothorax and scutellum very finely punctured, shining, area of metathorax shining; tegulæ bright ferruginous, wings brownish; basal nervure meeting nervulus; second cubital cell long, receiving first recurrent nervure about as far from base as length of intercubitus, the second nearer apex; legs black, with white hair, pale orange on inner side of tarsi, tarsi red apically, spurs red; abdomen with the basal half shining, tergites very narrowly red on apical margins and with narrow white hair-bands, broadly interrupted on first, more narrowly on second; ventral scopa pure white. Notauli linear.

Male. Length about 6 mm., anterior wing 4; mandibles bidentate, black, face densely covered with white hair; antennæ black; recurrent nervures about equally distant from base and apex of second cubital cell; sixth tergite simple, apex of abdomen unarmed.

Palm Springs, California, at flowers of *Phacelia distans*, March 24, 1933 (Timberlake). Distinguished from other species by the

bright red tegulæ and black labrum. Herein it resembles *O. robustula* and *O. palmarum*. The former is larger, with pale yellowish ventral scopa; the latter is considerably smaller, and differs as stated in the description below. A superficially similar insect is female *Ashmeadiella opuntiæ* Ckll. (specimens from Riverside, determined by Timberlake, on *Opuntia vaseyi*). This is larger with a much larger head, pure black mesothorax and very thick black hind spur. The mandibles are quite different, with a longitudinal shining keel, above which is a large dull black area, and there is a little band of bright orange hair on apical part of upper margin. The first recurrent nurvure is more than twice as far from the base of second cubital cell as second from apex.

Osmia enceliæ Timberlake MS., sp. n.

Female. Length about 8 mm. (one is smaller, only 7 mm.), robust, black, with mainly white hair, brown on vertex and the very thinly clothed mesothorax (which may be denuded), but abundant and pure white at sides of face, on cheeks, tubercles, pleura and sides of metathorax; eyes slightly greenish, probably more so in life; facial quadrangle longer than broad; mandibles and labrum black; mandibles broad, tridentate, with a conspicuous tuft of red hair just before the apex; an interrupted band of red hair below margin of clypeus; clypeus somewhat shining, very finely punctured, the upper part feebly carinate, the lower part depressed, concave; antennæ black; vertex very densely finely punctured; mesothorax and scutellum hardly shining, closely and coarsely punctured, the scutellum shining anteriorly; area of metathorax shining; tegulæ rather large, pure black; wings dusky, brownish, stigma and nervures dark; basal nervures meeting nervulus; first recurrent nervure more remote from base of second cubital cell than second from apex but the difference is sometimes not very great; legs black, with pale hair, faintly reddish on inner side of tarsi; spurs black; abdomen broad, convex, shining; margins of tergites with narrow white bands, on first broadened at sides and very narrow or interrupted in middle; fifth and sixth tergites with a fine pale pruinosity; ventral scopa reddish brown.

At flowers of *Encelia farinosa*, Andreas Canyon, Palm Springs, California, March 24, 1933 (Timberlake). Distinguished especially by the black tegulæ, brown ventral scopa and patch of red hair on mandibles. The nearest relative is *O. viguieræ*, described below.

The maxillary palpi, which have the apical part red, are very small, but five jointed, there being a minute but distinct apical joint beyond the fourth. Notauli very small and short, linear.

Osmia viguieræ Timberlake MS., sp. n.

Female (Type). Like *O. enceliæ*, but mesothorax more finely punctured and slightly shining; clypeus dull, convex, very minutely punctured, not at all carinate, covered when fresh with dull white hair. In both species, the lower margin of clypeus is shining.

Male. Length about 8 mm., hair of face dense and pure white, of upper part of head and mesothorax grayish brown, but a fringe of very long white hairs behind scutellum; mandibles strongly bidentate, faintly reddish subapically; antennæ black; recurrent nervures received near to and about equally distant from ends of second cubital cell; sixth tergite broadly truncate, the lateral margins strongly rounded; sides of tergites 3 to 6 with strong oblique channels along the base of the normally exposed portion.

Both sexes, including type, at flowers of *Viguiera parishii*, Andreas Canyon, Palm Springs, California, female April 24, 1932, male, March 2, 1934 (Timberlake). Female from same locality, March 24, 1933, at flowers of *Encelia farinosa* (Timberlake).

A male from flowers of *Encelia actoni* Elmer, Townsend Pass (or Emigrant Pass?) 3,000 ft. alt., Death Valley, March 11, 1927 (Timberlake), is appreciably different, as follows. Length about 8 mm. (but abdomen less extended), more robust, the abdominal tergites without the lateral sulci; tegulæ with a red spot (instead of all black); sixth tergite with margin broadly rounded; recurrent nervures more distant from ends of second cubital cell. Possibly a distinct race or species. It may be called var. **mortua.**

The maxillary palpi of *O. viguieræ* are very short and stout, 4-jointed; first joint broadly sessile; second cylindrical, black, very stout; third not greatly longer than second; fourth suboval, button-like.

Osmia robustula Cockerell, sp. n.

Female. Length about 8.5 mm., anterior wing a little over 5; very robust, black with white woolly hair on head, thorax and abdomen, abundant on face and front, tubercles, pleura and metathorax; on abdomen forming large dense tufts at sides of tergites, broad entire bands on tergites 2 and 3, tergites 4 to 6 thinly hairy all over, 4 also with an apical band, narrower than on 3, ventral scopa very pale yellowish; head not unusually large; eyes dark green; facial quadrangle longer than broad, mandibles tridentate, with a broad red band before apex; labrum shining black; clypeus dull, excessively densely and finely punctured, not ridged, the margin narrowly shining; flagellum obscurely brown beneath; vertex

moderately shining, very densely and finely punctured; cheeks hairy; mesothorax and scutellum finely and closely punctured, somewhat shining, not polished; their hair is thin and appears grayish; area of metathorax large, shining; tegulæ clear ferruginous; wings short for size of insect, hyaline, very faintly brownish; nervures dark, basal nervure falling a trifle short of nervulus; second cubital cell long, receiving recurrent nervures about equally distant fom base and apex; legs black with much white hair; small joints of tarsi red; hind basitarsi broad; spurs red; abdomen broad, convex, shining, finely punctured.

At flowers of *Lupinus odoratus*, north of Indio, California, April 23, 1927 (Timberlake). Distinguished by the red tegulæ, black labrum and relatively large size. The notauli are linear. They are so in the genus *Hoplitis*, which is generally regarded as a subgenus of *Osmia*.

Osmia xerophila Cockerell, sp. n.

Female (Type). Similar to *O. robustula*, of which it is perhaps to be considered a race, with the same mandibles, rufescent subapically, black labrum, bright red tegulæ, and red small joints of tarsi; but it is smaller (7.5 mm.), with the knees red, hind basitarsi not so broad, and the abdominal bands yellowish instead of clear white. The basal nervure falls short of nervulus; second cubital cell receives recurrent nervures equally distant from base and apex.

Male. Face and front densely covered with pure white hair; flagellum simple, red beneath; mandibles bidentate, with a little rounded lobe at each side; hair of scutellum distinctly yellowish. apex of abdomen tridentate; the teeth sharp, the laterial ones largest and longest.

Palm Springs, California (Type locality); female at Cryptanthe, March 24, 1933; male at *Malva parviflora*, May 21, 1932 (Timberlake). Female also taken at Borego Valley, March 26, 1933 (Timberlake). The maxillary palpi are very minute, with four subequal joints, the fourth with a conspicuous tuft of bristles at end. The notauli are linear.

Osmia phaceliarum Cockerell, sp. n.

Female. Length about 6 mm., anterior wing about 4; black, head and thorax with rather abundant white hair, the hair on front especially long and abundant; labrum clear red; mandibles with the apical half, except the margin, dusky red; head not very large; facial quadrangle longer than broad, the orbits distinctly converging below; clypeus densely punctured, not shining; flagellum dusky red beneath, except basally; vertex densely punctured; mesothorax and scutellum moderately shining, with close very distinct punctures, and a greenish tinge so obscure as to be doubtful; area of

metathorax shining, with a dull base; tegulæ very bright ferruginous; wings dusky hyaline; basal nervure far short of nervulus; second cubital cell rather short; receiving recurrent nervures about equally distant from base and apex; legs black with white hair, yellowish on inner side of tarsi; spurs yellowish white; abdomen shining, with hind margin of tergites rufous, and narrow white hair-bands, denuded or lacking in middle of first three tergites; ventral scopa clear white.

At flowers of *Phacelia distans*, Puente Hills, California, April 12, 1925 (Timberlake). The locality is near Whittier and is not desert. Maxillary palpi very minute, four jointed, the last joint somewhat curved, longer than third. Notauli very small and short, but linear.

Osmia shastensis Cockerell, sp. n.

Female. Length about 7.5 mm., anterior wing 5.5; black, robust shining, the head and thorax with rather scanty grayish-white hair, abundant on scutellum, metathorax and pleura, the vertex almost bare, and mesothorax very thinly hairy; head massive, larger than thorax, facial quadrangle about square, cheeks broad; distance from lateral ocelli to occiput almost equal to distance between lateral ocelli; mandibles and labrum black; mandibles tridentate; clypeus high, convex, minutely and closely punctured, little shining, not at all ridged, very thinly clothed with dark hairs; apical region of clypeus depressed, with the margin shining; antennæ black; vertex finely punctured, moderately shining; mesothorax and scutellum polished on disc; area of metathorax large, shining; tegulæ pure black, rather pointed posteriorly; wings dusky, stigma and nervures black; basal nervure meeting nervulus; second cubital cell long, receiving recurrent nervures equally distant from base and apex, or first a little more distant than second; legs black, without evident pale hair, hairs on inner side of tarsi brown; spurs black; abdomen broadly convex, shining, the margins of tergites laterally with rather long white hair, dense and conspicuous on first, not very conspicuous on the others, on third and fourth forming entire or almost entire very thin bands; ventral scopa long and ferruginous. Notauli well developed, linear.

Shasta County, California (E. R. Leach). Distinguished from *O. hemizoniæ* by being smaller, mesothorax polished on disc, eyes not green.

Female. Length about 6.6 mm., anterior wing 5.5; black, hair of head and thorax white and abundant on face, cheeks, pleura and metathorax, but dorsally very thin and appearing somewhat grayish; head large; mandibles tridentate, bright red with the apical margin narrowly black; labrum clear red; clypeus convex, slightly shining, closely and distinctly punctured, with a finely striate effect,

Osmia rupestris Cockerell, sp. n.

apical margin very narrowly red; flagellum bright red beneath; vertex dullish, finely punctured; mesothorax and scutellum shining on disc, the punctures distinctly separated; area of metathorax large and shining; tegulæ very bright ferruginous, shining; wings brownish, stigma dark reddish; basal nervure falling considerably short of nervulus; second cubital cell receiving recurrent nervures about equally far from base and apex; legs black, with the knees, tibiæ more or less at extreme apex, and tarsi red, the front and middle basitarsi suffused with blackish; hind basitarsi broad; spurs yellowish white; abdomen short, broad, convex, shining, with hind margins of tergites narrowly pale red; tergites finely pubescent, except the second, which is mainly bare, though hairy at sides, and with an apical band; basin of first tergite sharply defined, shining; ventral scopa yellowish white. Notauli linear.

At flowers of *Phacelia distans*, Big Rock Creek, California, April 25, 1926 (Timberlake). The locality is on the edge of the Mohave Desert.

Distinguished from *O. phaceliarum* by the larger size, red mandibles and red hind basitarsi. The maxillary palpi are very minute, with four short joints; third not longer than second; fourth cylindrical with a bristle at end.

Osmia hemizoniæ Cockerell, sp. n.

Female. Length about 9 mm., anterior wing nearly 6; robust, black, hair of head and thorax abundant, dull white on face, cheeks, pleura and metathorax, pale fulvous on upper part of head and thorax; mandibles and labrum black; mandibles broad, tridentate, without any patch of red hair; clypeus very finely and densely but distinctly punctured, with a faint trace of a median ridge; antennæ black; vertex dull and excessively densely punctured; mesothorax dullish, closely punctured; scutellum dull, the surface largely hidden by the long hairs; base of metathorax with a transverse undulate shining band, having the form of a flying bird; tegulæ black; wings brownish, stigma and nervures dark; basal nervure meets nervulus a little on outer side; second cubital cell receiving first recurrent nervure much more distant from base than second from apex; legs black, with white hair, last tarsal joint red; spurs dark red; abdomen very finely punctured, somewhat shining, tergites with rather narrow, clean cut, faintly ochreous hair-bands, middle of sixth delicately pruinose; ventral scopa very pale yellowish. Notauli linear.

Riverside, California, at flowers of *Hemizonia paniculata*, May 24, 1932 (Timberlake). Distinguished from *O. shastensis* by

being larger, mesothorax dullish and densely punctured, eyes green.

Chelostoma australe Ckll. (which Timberlake refers to *Ashmeadiella*) may be compared. It is very different by the first two tergites red at sides, and hind femora swollen and bright red; the labrum is black and strongly bidentate at end, the long sharp teeth diverging; ventral scopa white. In a series, the red at base of abdomen varies, and may be evanescent. *C. australe* visits flowers of *Pentstemon breviflorus* and *P. palmeri*, as observed by Timberlake.

Osmia palmarum Cockerell, sp. n.

Female. Length 5-5.7 mm.; like *O. arefacta* but smaller; mandibles tridentate, apical part dull red; labrum black. Differs from *O. arefacta* by the somewhat shorter and relatively broader head; dull hoary mesothorax and scutellum, with a dull white hair band in suture between them; tegulæ smaller; wings clear hyaline; hind margins of tergites reddish. The basal nervure falls just short of nervulus; second cubital cell receives recurrent nervures equally distant from base and apex, or first a trifle nearer to base than second to apex; hind tibiæ very densely clothed behind with pure white hair, ventral scopa short and pure white.

It is also very near to *O. phaceliarum*, differing by the black labrum and hoary appearance of mesothorax, with band in scutello-mesothoracic suture (no trace of this in *O. phaceliarum*); also the tegulæ are paler and the wings clearer, and the fifth tergite is more densely white pubescent. The hair of thorax above is tinged with yellowish, including that on scutellum, which is pure white in *O. phaceliarum*.

Type from flowers of *Cryptanthe angustifolia*, Palm Springs, California, April 2, 1927, and March 24, 1933 (Timberlake). Also on the same plant 19 miles west of Kane Springs, March 25, 1933 (Timberlake). Notauli linear; mesonotum with a median groove on anterior half.

Ashmeadiella rhodognatha Ckll. may be compared. It is larger and has first recurrent nervure considerably more distant from base of second cubital cell. The mandibles are bright red, or darker. The mesothorax has a broad band of white hair along posterior margin, and two spots in front. *A. rhodognatha* was taken by Timberlake at flowers of *Cercidium torreyanum*, in Box Canyon and Painted Canyon.

(To be continued)